

AIRFIX magazine

DECEMBER 1971

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THIS
ISSUE**

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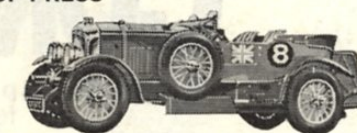
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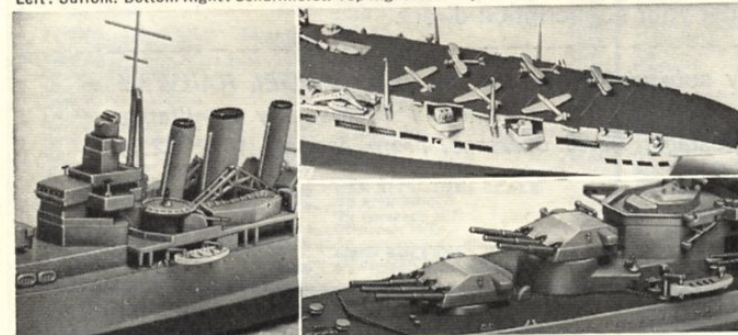
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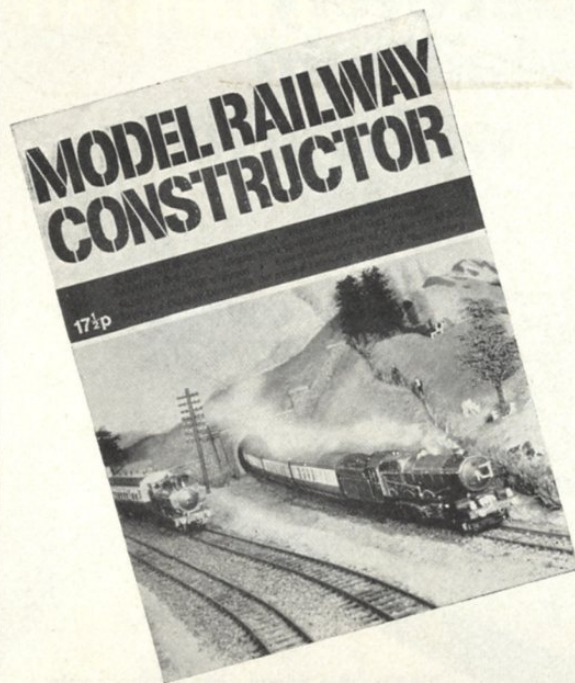


Left: Suffolk. Bottom Right: Scharnhorst. Top Right: Ark Royal.



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- "The Art of Coarse Exhibiting"—satirical article with a grain of truth.
- Dudley Dimmock gives helpful suggestions on methods of point control and describes the advantages and disadvantages of each type.
- Full review and test of the new Tri-ang "Evening Star".
- Railway films for hire or purchase—a full list with reviews.
- The Alanbruck and Stefanheim line—a feature on an HO9 layout on show at the Warrington and Manchester Exhibitions in December.
- The complete index for 1971 is included.

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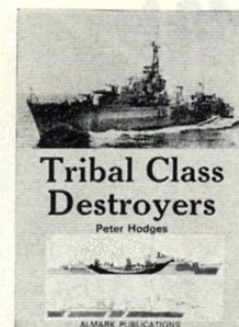
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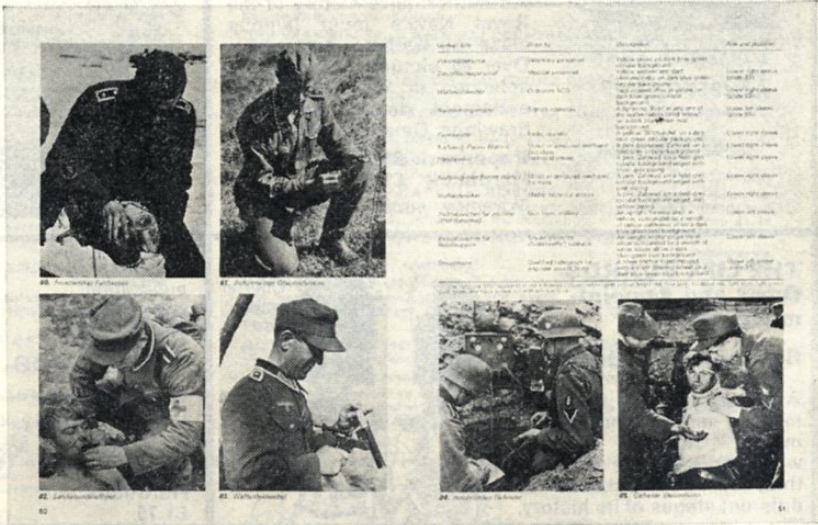


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GERMAN ARMY UNIFORMS AND INSIGNIA, 1933-1945, by Brian L. Davis. Completely new—a comprehensive work with full photographic evidence detailing every aspect of the military uniforms, insignia, and accoutrements of the German Army during the Third Reich.

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AIRFIX magazine

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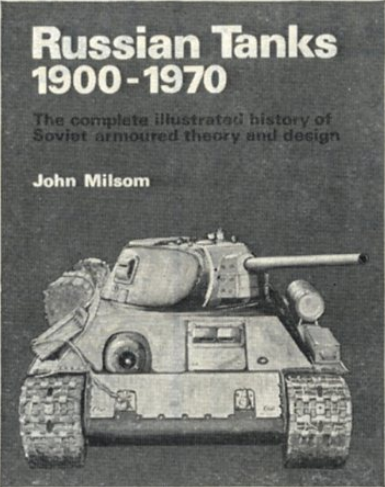
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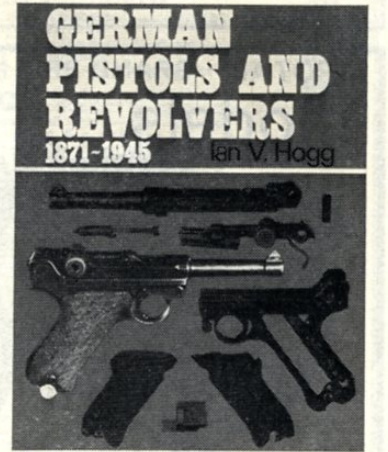
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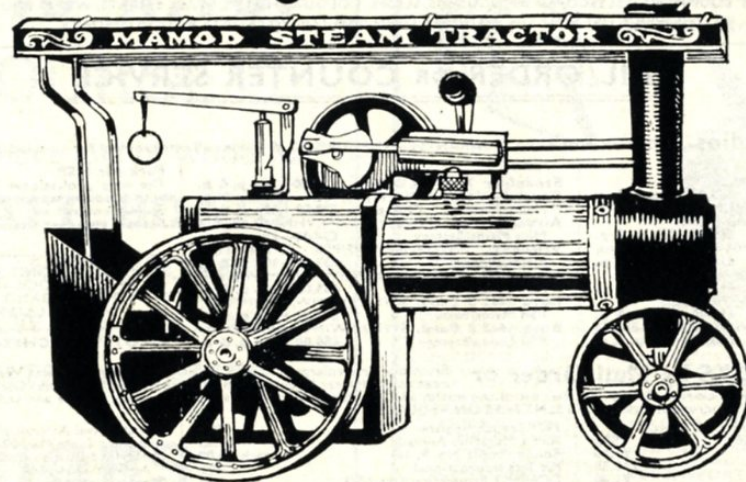
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FOR PLASTIC MODELLERS

December 1971

Editorial Offices:
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Volume 13 No 4

Editor: Chris Ellis

Cover Picture

Our cover picture this month depicts one of the new Swedish designed and built Volvo snow vehicles now in service with the British Army. Designated the BV 202E Volvo snow vehicle, it is capable of carrying one infantry section complete with small arms, ammunition and rations, or one ton of equipment. With a road speed of 24 mph it can tackle deep loose snow, marshland and various other types of difficult terrain. Track pressure is only 12.1 lb per square inch, little more than a man on skis. This, plus a rugged exterior makes it one of the most versatile vehicles in the Army today. The vehicle illustrated was in service with an infantry battalion of BAOR on exercises in Germany last winter.

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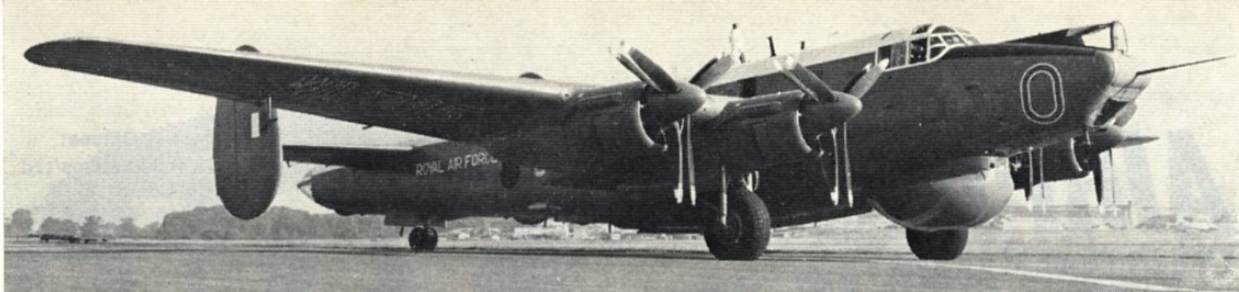
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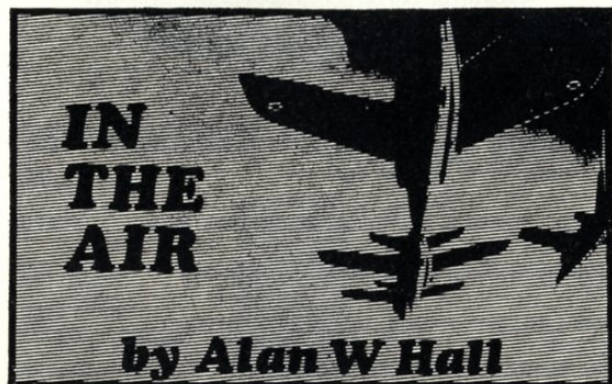


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Above: 'Ancient Mariner' now taking up a new career over the sea is the Shackleton which is being converted to the Airborne Early Warning role for the RAF. Superseded in maritime patrol work by the Nimrod, this veteran type now seems assured of several more years' service.



AT a ceremony held at RAF Odiham on September 29, No 33 Squadron became the first RAF Squadron to form using the Westland/Aerospatial SA-330 Puma helicopter and the first British operational unit to enter service with an Anglo/French designed and built aircraft.

Although the Squadron has had Pumas since June of this year, they have spent the summer months assembling their full complement of aircraft and training the crews to operate them at the Operational Conversion Unit which is also at Odiham.

Eleven of No 33's Pumas were at the ceremony and all have been camouflaged in the new standard for No 38 Group helicopter squadrons in having green and grey upper surfaces and black on the undersides. All colours including the national markings, which are modified 'B' type having only blue and red circles, are matt. Code letters and serials are also matt black apart from the words 'Royal Air Force' on the fuselage sides. The only highlight in this rather drab scheme is the squadron badge, which has a hart's head flanked by white and green bars on the starboard cockpit door of each helicopter.

One of the features that stood out on seeing the Puma at close quarters was its versatility. This helicopter is designed in most respects to replace the Whirlwind in RAF service, but it does so with such great advances in engineering techniques that it can hardly be put in the same class.

I was very impressed with the way that aircraft servicing, always a nightmare under difficult conditions away from permanent bases, could be carried out with ease. The Puma's two Turbomeca/Rolls-Royce Turmo IV turbine engines mounted on top of the fuselage, have covers split into four sections that fold away to give superb access to the machinery. An air portable crane, which can be carried in the Puma itself, can be fixed on to the side of the aircraft and the engines, rotor head, blades and other parts removed or installed quickly and simply.

Another advantage from the operational point of view is that the Puma's flight deck is at the same level as the passenger/freight compartment. Communication between the Flight Dispatcher, troops and captain of the aircraft is now just a matter of turning round and having a few words or looking to see what goes on!

One other distinct advantage is that the Puma has access doors on both sides of the passenger compartment. This allows 16 fully-equipped troops to disembark at twice the speed, at the same time providing immediate fire power on both sides of the aircraft if the landing should be made in the face of enemy opposition. To add to its versatility, the Puma may be used as a gun ship with two 7.62 mm GP machine guns mounted exter-

nally. It can carry a Land Rover, 105 mm howitzer, or stores, as an underslung load and can be adapted to an ambulance role carrying six stretchers, still having space for four seats for medical orderlies or walking wounded. The rear part of the troop/cargo compartment is removable so that extra long loads may be carried and the whole aircraft can be taken to pieces rapidly for transport by Hercules (one Puma) or Belfast (three Pumas).

Now that Britain has given up many of its overseas bases and is concentrating its resources in NATO, I was told that the Puma with long-range tanks fitted can easily fly at speeds of over 140 knots to any part of the alliance such as Northern Norway or Southern Italy in as little as three hops. The first exercises to test this capability is being held at the present time when the Squadron, now fully operational and mobile, has been sent to Italy for a NATO exercise. No 33 Squadron has been equipped with 12 Puma HC Mk 1s. These are all in the XW serial range and are coded CA to CM. Serials run from XW204 to XW215.

Apart from the five Pumas now serving with the Operational Conversion Unit at Odiham, No 33 Squadron will be one of two operational units also stationed there. In the second week of October, XW217, coded DA, arrived to become the first aircraft for No 230 Squadron which is now being formed.

Jetstream 200 Finishes Tropical Trials

AJETSTREAM 200 recently returned to Leavesden airfield from Dubai in the Persian Gulf, where in only 13 days and 69 flying hours (including 40 hours in transit) it completed the tropical trials which were interrupted by the demise of Handley Page Ltd.

Captain John Allan, chief of flight test for Jetstream Aircraft Ltd, was at the controls. With him were Bill Goddlieb, who is responsible for the Jetstream's flight test, handling and performance, Ray Gould, who leads Jetstream Aircraft Ltd's products support organisation, and Jean Mondet, a Turbomeca engineer.

Trials at Dubai in temperatures up to 104°F included climbs up to 27,000 ft at maximum weight and engine cut take-off at maximum weight. Measurements confirm that the Jetstream comfortably meets its predicted performance with a margin in hand.

In addition to a short stop at Teheran to measure engine power at a hot and high airfield, the Jetstream also gave three demonstrations in the Near East to military and civil operators interested in the aircraft's capability in a hot climate.

Functioning as an 18-passenger walk-round mini-airliner, as an executive aircraft or as a military transport or trainer, the pressurised, wide-bodied Jetstream has a cruising speed of 285 mph and flies over the weather at 30,000 ft. Powered by two Turbomeca 16 prop-jet engines, it has a range of 886 miles with ten occupants or a ferry range of 1,778 miles.

The position of the hart's head squadron badge can be seen on XW215 'M' painted on the starboard crew door.



Fleet Air Arm Sea Fury to Fly Again

AHAWKER Sea Fury FB11 is currently being restored to flying condition at RNAS Yeovilton. The aircraft, TF956, was the first Sea Fury FB11 produced by Hawker Aircraft in 1948.

Starting its Service career on August 20, 1948, in No 802 Naval Air Squadron, TF956 was then based at RNAS Eglinton. After service at various Naval Air Stations (including Yeovilton) the aircraft went to Korea in HMS *Warrior*, joining No 807 Squadron in HMS *Theseus* at the end of 1950. Flak damage necessitated a starboard wing change in April 1951 just before *Theseus* was relieved on station by HMS *Glory*. During *Theseus'* Korean patrols No 807 Squadron flew 2,320 operational sorties involving some 5,600 hours and TF956 contributed 213 hours to this total. During the Korean conflict there were 11 incidents involving Sea Furies and Mig-15 jet fighters in which one of the enemy was shot down.

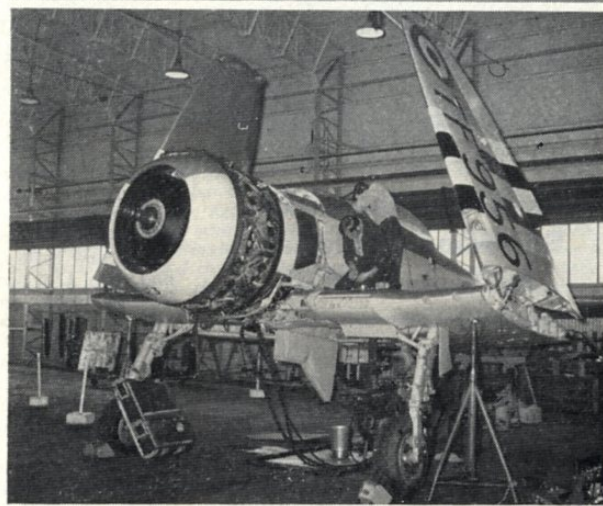
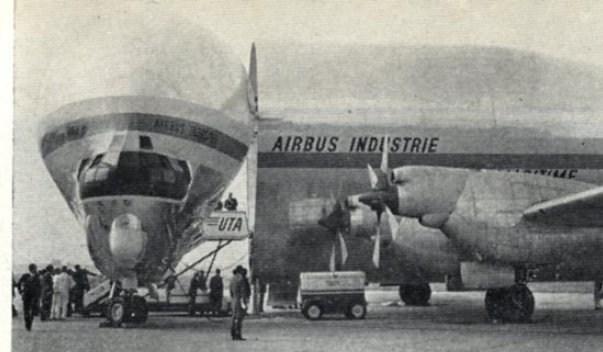
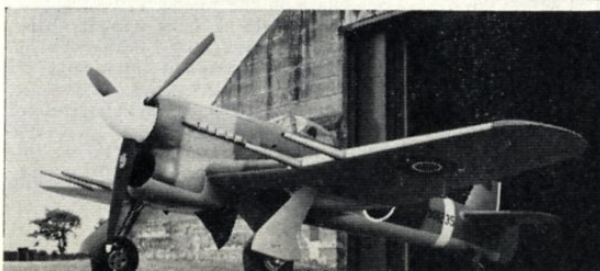
After reconditioning at the Naval Air Yard, Fleetlands, and later at Anthorn, TF956 joined No 738 Squadron at RNAS Culdrose in May 1953, moving to RNAS Lossiemouth in November 1953. March 1954 saw the end of its active service with the Fleet Air Arm, and in June 1954 the aircraft joined No 1834 (RNVR) Squadron at Yeovilton until November when it went to the Naval Air Yard at Donibristle.

After storage, this unique Sea Fury was allotted to Airwork Ltd at Hurn in April 1960 for Fleet requirement duties. In 1962 it was bought back by Hawker Aircraft Ltd with the idea of re-selling it abroad. However, due to the excellent condition and bearing in mind that TF956 was the first FB11 Hawker had built, the company decided to renovate the aircraft with the idea of its joining the collection of historic aircraft preserved at Dunsfold. By 1968 the pressure of work caused by Harrier production precluded further renovation and finally in 1970 it was decided that TF956 should be scrapped. The aircraft was offered to the Fleet Air Arm Museum on the understanding that the rebuilding work would be continued and in July 1971 TF956 returned to Yeovilton.

Hawker Siddeley Aviation has supplied the necessary components, in the majority of cases, to enable the renovation to continue. In addition, a considerable number of spares including many components impossible to obtain today have been supplied. Rolls-Royce, Bristol Engine Division, had inspected and passed a Bristol Centaurus engine which powers the Sea Fury, while Dowty Rotol, Cheltenham, are overhauling the propeller and Dunlops are supplying sufficient tyres to keep TF956 airborne. Meanwhile, at Yeovilton, a team led by AA1 Gourlay, who first worked on TF956 when it was with No 1834 Squadron, are completing the rebuilding work and all is going well for the first flight which is scheduled in January 1972.

It is intended that the Sea Fury will join the famous Swordfish

Below: Blackburn Beverley, XB261, formerly flying with the Aircraft & Armament Experimental Establishment, Boscombe Down, has been bought for £3,000 by the South-east Airports Museum for preservation. **Bottom:** Destined for the RAF Museum, this Hawker Typhoon 1b is the only one left from the several thousands built (R. W. Cranham photos).



Top: This Super Guppy—a modified Stratocruiser with turbo-prop engines and an enormous fuselage extension—will be used by Airbus Industrie, the European consortium which is building the Airbus A300B for the transport of Airbus and Concorde sections to and from the assembly lines. **Above:** Hawker Sea Fury FB11, TF956, is now being prepared for flying service again.

belonging to the Fleet Air Arm at air displays throughout the summer season. It will appear in the colours worn when the aircraft was serving in Korea on board HMS *Theseus*.

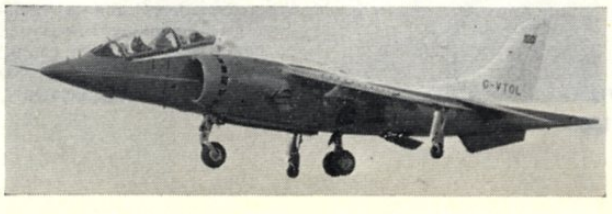
New Lease of Life for the Shackleton

WITH the introduction into RAF service of the Nimrod submarine hunter/killer aircraft, the days of the Shackleton in the maritime reconnaissance field are numbered. But just 21 years after the RAF took delivery of its first Shackleton, this versatile and rugged aircraft is now being given a new lease of life in the airborne early warning role.

In January 1972, No 8 Squadron forms at RAF Kinloss with the airborne early warning (AEW) version of the Shackleton. A modified Mk 2, this aircraft is readily distinguishable by a bulbous radome beneath the nose. Its task will be to provide early warning support for maritime surface forces and to improve the low level radar cover around the UK.

No 8 Squadron will eventually move to Lossiemouth where RAF AEW operators are currently being trained by the Fleet Air Arm. In fact, half of No 8 Squadron's AEW operators will be ex-FAA aircrew, who have had plenty of experience of this type of work on the Gannet AEW Mk 3. All the Shackletons converted to the AEW role will be completely refurbished by Hawker Siddeley's factory at Woodford.

The first civil registered Harrier, G-VTOL, in its brilliant red, white and blue colour scheme. This aircraft was damaged in a landing accident at Dunsfold early in October.



Medieval Castle



Expanding the Airfix Sherwood Castle set, by Terence Wise

AN Englishman's home is his castle', the old saying goes, and for several weeks in my home that's exactly what it seemed like as I set about building my own castle—with the aid of the Airfix Sherwood Castle sets! But before launching into a blow by blow account of the conversion, it is best to brush up on a few of the basic facts about castles which influenced my design.

The castle came to this country with the Normans and was at first merely a wooden stronghold built on a mound, or motte, and surrounded by a ditch and palisade which also encompassed a lower area known as the bailey. From the 12th to 13th centuries there was a gradual changeover to stone, and it was during this period that the castle rose to the height of its importance in England and Wales. Many of these castles were simply improvements to the original timber structures, but there were also many new castles built and I have chosen a new castle of this era for my conversion, mainly because of the dictates of the kit parts.

As you can see from Fig A, the structure as imagined was built to incorporate a stream and a rock outcrop. The stream was used as a moat in front of the inner wall, and also diverted to form a moat completely surrounding the outer walls of the castle: in the true tradition of the period the castle is designed to present

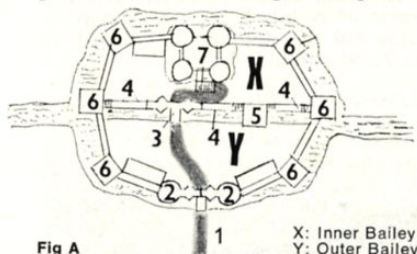


Fig A
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X: Inner Bailey
Y: Outer Bailey

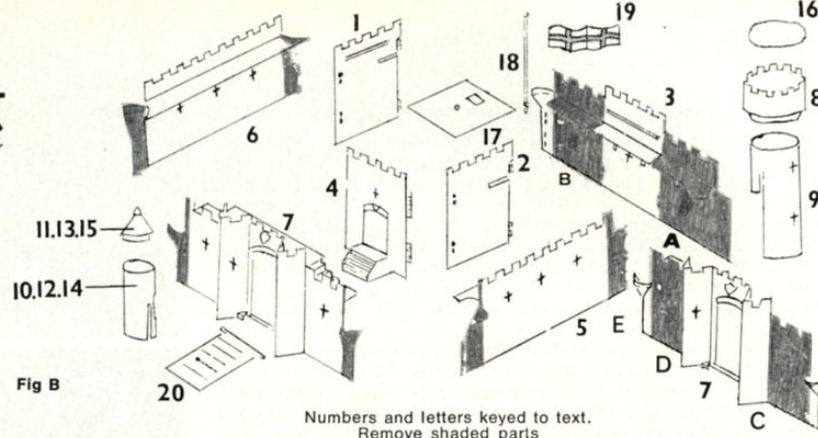


Fig B

Numbers and letters keyed to text.
Remove shaded parts

to an attacker one fortified position after another. The main parts of the castle are marked: 1. main gateway; 2. flanking towers; 3. inner gateway; 4. inner wall; 5. inner wall tower; 6. curtain wall flanking towers; 7. keep and motte.

The new castles, built in the late 12th and early 13th centuries, did not usually have a motte, for a newly-dug mound would have been a very insecure foundation for the massive keeps of the day. So my castle is built on a level surface, with just the keep on a 'rock' outcrop, which would have been incorporated to give protection against mining operations and to raise the entrance of the keep above ground level. Other parts of the castle can be raised as you wish, with the aid of wire netting or wooden 'formers' and Mod Roc or a similar product, in order to make the best use of the drawbridges.

The keep was the strongest part of the castle of this period, being designed as a self-contained unit capable of a separate defence if the rest of the castle fell. The tower keep, the type used here, came into use generally during the second half of the 12th century, although independent keeps of this style, such as the Tower of London and Colchester, had come into being as early as the beginning of the century. Towards the end of the century the cylindrical keep began to appear, designed to overcome the problems of blind spots and the weakness of the square corners when attacked by picks and rams.

Also towards the end of the 12th century flanking towers were used in the bailey walls to overcome the difficulty of firing at attackers once they had gained the foot of the walls (during the 13th century these developed into the great circular drum towers). The first square flanking towers had their inner side flush with the walls and were often left open to the bailey, but in later castles this side was built up and each tower became a separate stronghold, breaking up and dominating the ramparts as well as covering each other and the base of the walls.

So you can see the model has a tower keep and a curtain wall with square flanking towers—all possible at the end of the 12th century. The gateway may appear a little weak, but this is because the complicated gatehouse did not

become common until the mid-13th to early 14th centuries.

One facet of the kit which caused problems was the cross-shaped arrow slits. These were fine for towers and gateways, but they were not found in castle walls until the end of the 13th century. Beaumaris, Conway and Carnarvon all have these arrow slits in their walls, the latter having two rows, so as to treble the fire-power of the defenders. These slits were backed by firing galleries built into the walls below the battlements. Strictly speaking these slits should be filled in as they appear on the wall sections we make up, for it is not possible to alter the remainder of the kit parts to correspond with this later date, the main obstacle being the square towers, which fix the date at no later than the end of the 12th century.

Fig B, based on the plan on the back of the kit box, shows the individual parts of the Airfix kit, almost all of which require some modification. The small turret towers, parts 10 to 15 inclusive, are not needed. Other parts have shaded areas representing pieces which will be trimmed off: parts 3A and 3B, 5E and 7C and 7D will be used separately for other purposes. The numbers are the same as those on the back of the kit box and you will need to refer to that diagram constantly, so mark 3A and B, 5E and 7C and D on it now.

Seven kits are needed for this enlarged castle. Keep the boxes for storing the castle, which has deliberately been designed so that it can be packed away between wargames: towers, gateways, wall sections and keep are all complete in themselves. Although this method has some disadvantages—it is impossible to completely conceal joins—I think they are outweighed by the advantages, for a break-down castle such as this can be set up with many variations in size and shape.

Most of these new castles probably had their keeps built first, but this was not possible with the model, since the keep walls are made up from left-over parts, so instead I have started with the main gateway. Tools required throughout are quite simple: rule, pencil, craft-knife, one each small round, triangular and flat files, fine-toothed saw of the tenon type. Use of a bench hook helps with the saw

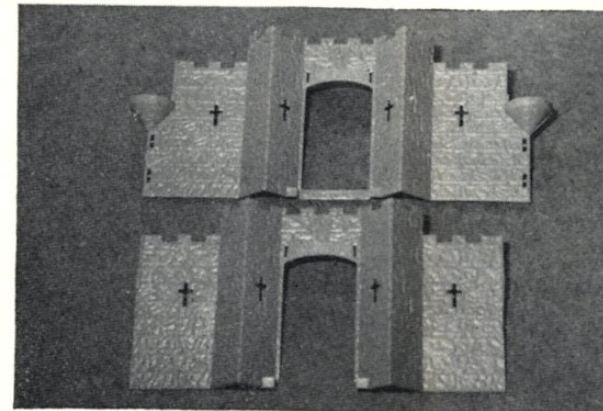
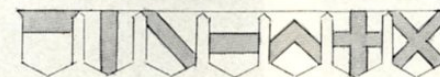


Fig C



cuts, and a vice is needed briefly later on. You will also need plastic card, oddments of balsa, polystyrene and balsa cements and Plastic Padding. All exterior surfaces of the kit parts need to be cleaned up to remove traces of sprue and mould lines.

The Main Gateway

Parts required: 2 x 7 (gateway); 1 x 20 (drawbridge); 2 x 9 (large round tower); 2 x 8 (tower top); 2 x 16 (tower floor). All figures given in inches.

Take the gateways (7) first and draw at each end a line parallel with the lip provided for the fitting of the small round towers. Cut these turret fittings off with the saw. Photo 1 shows both parts 7, the bottom one cut as instructed. Save these offcuts, and all other parts removed in the future. From one of the gateways remove a 1/8 strip from the rear edge, along the complete length of the rampart including the steps. File to get a good fit when placed back to back with

the other gateway, and make sure the steps are free of any burring.

The shield over the gateway is heraldically incorrect and should be shaved off, the area then being scored to match the surrounding stonework. If you wish to keep the shield, clean off the marks inside the outline and later paint in one of the seven basic heraldic symbols shown in Fig C, from left to right the chief, pale, bend, fess, chevron, cross and saltire. These may be painted in gold, silver or white, red, blue, green, purple or black, the one rule being that gold and silver may not be used together, nor may one colour be placed on another (combinations, therefore, would be red and gold, silver and red, blue and gold, silver and blue, etc.).

Decide which of the two gateways is to be the front, then remove from the rear one the bar at the bottom of the opening. Cement the two gateways together back to back, using 1 inch blocks of balsa glued to the inside of the

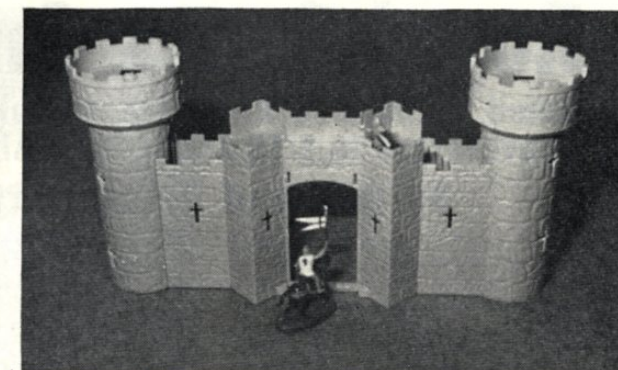


Photo 1

Photo 2

Above left: View showing part 7 before and after modification, with end pieces and bar at base of gate removed. Above: Completed main gateway, figures give an idea of the depth of the walls in comparison with original model. This conversion needs seven Sheriff of Nottingham castle sets to complete. Left: Shield patterns as described in text. Previous page: Split view of castle parts; shaded areas should be removed as described in article.

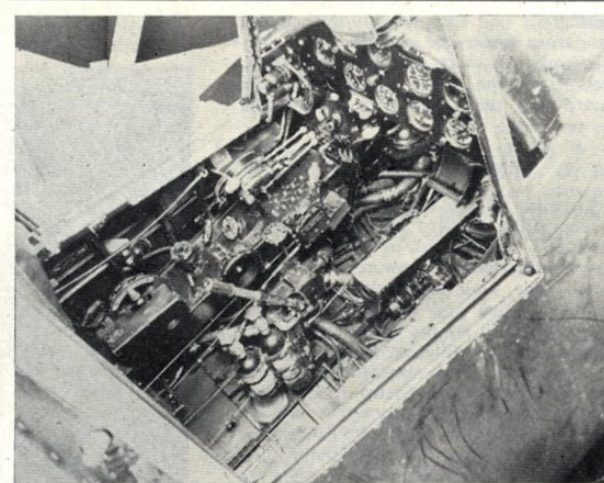
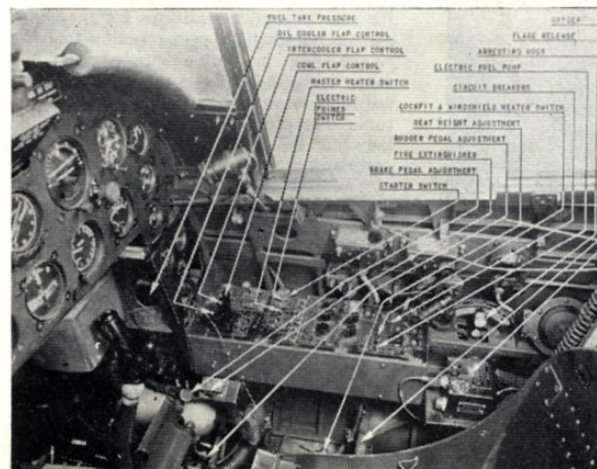
bottom edges to ensure correct spacing at bottom as well as top.

Cut out the arrow slits in the parts 9, then cement these towers over the ends of the gateway, the slots fitting over the ends of the battlements with the tower door facing the rampart. Check the towers are vertical. Cement tops (8) and floors (20) to the towers. The drawbridge (20) is rigged with scale chain or thread and hinged along the bottom with Sellotape. Photo 2 illustrates the completed gateway.

The towers need not be permanently cemented in place. One large tower will be left over and this could be cut to look like a war-damaged tower. Then, in the course of a wargame, the damaged tower could be substituted for a good one to simulate a successful mining operation or the effect of an artillery bombardment.

Next month we get stuck into the job with work on flanking towers, inner gateway, walls and towers and make a start on the outer walls.

Despite the length of last month's Corsair article we still had many more pictures than space allowed. We hope to use some of these later; meanwhile here are useful detail views of the starboard (below) and port side of the F4U-1.



Royal Scots Greys

Some attractive king-size model soldier conversions in 1:12 scale from Airfix kits

By Rowland H. Bartlett

THE Royal Scots Greys trace their history back to 1678 when General Sir Thomas Dalyell of the Binns raised three troops of Scottish Dragoons in Linlithgowshire. In 1681 a further three troops were raised and the six joined together to form the Royal Scottish Regiment of Dragoons. The original stone-grey uniforms gave the Regiment its name; which is now more closely associated with the grey horses on which it was mounted after 1702.

The first period of active service was in 1694 against the armies of Louis XIV of France and took place in Holland. The Regiment going on to win its first battle honours at Blenheim, Ramillies, Oudenarde and Malplaquet. In 1815 the Greys made the famous charge at Waterloo, and captured the Standard belonging to the 45th French Infantry Regiment (The Invincibles). The Victoria Cross, which was instituted during the Crimean war, was awarded to two members of the Greys for their part in the Charge of the Heavy Brigade, much more successful, but less well known than that of the Light Brigade.

Today, although no longer mounted and now merged, members of the Regiment still wears full cavalry dress on rare occasions.

The models in this article depict a Captain in dismounted review order, and a trumpeter in mounted review order during the early 1900s.

Prior to 1914 the leg wear for mounted duty consisted of pantaloons with knee-boots, jack spurs and leathers. For dismounted full dress, overalls were worn with wellington boots and box spurs. The wellingtons had tops of soft leather and were worn under the overalls.

In order to carry out the conversions, parts from the Airfix 1:12 scale Life Guard and the Coldstream Guardsman are required.

THE OFFICER

Assembly of the officer is commenced by cementing together the two halves of the Life Guard's head, as the chin chain was considered to be more accurate in detail. The Coldstreamer's bearskin is then assembled and fitted to the head. Bearskins worn by the Greys officers are much taller and different in shape to the kit headgear and therefore requires modification. This is easily done by re-shaping with plastic putty.

When the putty has set, sanding is required to obtain the right shape, and the correct 'fur' appearance is achieved

by scoring the surface with a modelling knife. The hackle (plume) is fashioned from a piece of expanded polystyrene and is attached to the bearskin with Araldite.

The tunic from the Life Guard is taken, and the two halves cemented together. When this is completed, the underside is filled by using the Banner from the Life Guard trumpet which is shaped and cemented inside the tunic and serves as a platform for the legs to butt on to.

Make up the Life Guard's boots as described in the instructions and when the cement has dried, each boot is sawn off along the line of the jack spur straps. Assemble the foot guard's legs and chamfer the inside of the lower leg so that the sawn-off boots fit snugly inside. When a good fit is obtained, the boots

COLOUR SCHEME	
Bearskin	Black.
Hackle	White with gold socket at base.
Chinchain	Gold.
Collar	Blue with 3 lines of gold at the edges and silver grenade each side.
Epaulettes	Gold with Silver Rank Stars.
Tunic	Scarlet with gilt buttons.
Waist Belt	Blue, over stippled with gold (to represent gold lace overlay).
Pouch Strap	Gold.
Sword Slings	Gold.
Pouch Strap	Gold.
Buckles and Slide	Silver with gilt eagle.
Pouch	White.
Gauntlets	Silver, hand-grip grey.
Sword	Gold.
Sword Knot	Gold.
Overalls	Blue with yellow stripe.
Boots	Black with Steel spurs.

Pictures on this page show front and rear views of the completed Scots Greys officer. The very lifelike pose is worthy of note.



can be cemented into the legs. Plastic putty is now applied over the joint between boot and leg in order to extend the overlap between overall and boot and when cleaned up, the result is a good representation of cavalry overalls worn over wellington boots.

The box spurs are added by glueing 'U' shaped pieces of fuse wire around the heel of each boot with the spurs from the kit attached to the rear. The top of each leg is cut, so that both legs will fit into the tunic giving, at the same time, a natural stance.

With the legs and body in one piece, it is wise to cement the figure to one of the bases supplied. I used the foot guards' base as this is larger and does not cramp the relaxed stance produced.

The Life Guard's left arm, gauntlet and sword are attached. New sword slings are produced from an old toothpaste tube, this being cut open, washed and creases removed by using the handle of a spoon. Two narrow slings are cut and attached to the scabbard, the first sling fixed to the top scabbard ring and the free end cemented to the left thigh at the point where the tunic terminates. The second sling is attached to the lower ring and joins the tunic skirt a little further to the rear. Accurate positions for the slings can be obtained by remembering that the sword slings are not suspended from the tunic waist belt, but are attached to a webbing waist belt worn underneath the tunic. Therefore the slings are only visible between the bottom of the tunic and scabbard.

Assemble the right arm from the foot guard and saw off just below the elbow, joining the remaining gauntlet to the lower arm.

Epaulettes are added, as supplied for the Life Guard, but with the addition of three rank stars to each epaulette, these being cut from stretched sprue.

The pouch can now be cemented in

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position as indicated but adorned with the famous French Eagle, captured at Waterloo, this being cut from Plastikard or similar and cemented to the centre of the pouch.

Next, remove the buttons from the rear of the tunic and re-arrange in two rows of three, plus two buttons in the centre below the waist belt.

The sword knot supplied is incorrect, but this can be made by using a short piece of multi-strand electric cable with the insulation removed. A knot is tied in the wire, the strands on one side of it are twisted and attached to the sword, whilst the free end is splayed out to give a tassel effect.

Finally, complete the waist belt buckle by adding an eight-pointed star to the centre of the existing clasp.

The whole figure was then given a coat of Humbrol matt white and set aside for several days before the final painting with Humbrol 'ceremonial dress' colours.

In addition, the tunic front was piped in blue and the buttons on the rear skirt were piped in gold. Each sleeve had an Austrian knot in gold, which is partly covered by gauntlets.

THE TRUMPETER

The trumpeter is similar in construction and again assembly is commenced with the head of the figure, but in this case the Coldstream Guardsman's was used.

Assemble the bearskin as detailed in the kit instruction leaflet, and then carve away each side of the bearskin in order to reduce the width.

The hackle is formed from expanded polystyrene and is attached to the bearskin as described earlier. In the case of trumpeters, the hackle commences about halfway up the left-hand side of the cap and passes right over the top as indicated in the photographs.

The Life Guard body is assembled in the normal manner together with the legs of the same kit. At this stage, the head is attached to the body and arranged with a slight turn to the right.

Build up the Life Guard's thighboots, complete with spurs as per kit instructions and when dry, each boot is sawn off where the rear of the boot terminates, this being roughly in line with the back of the knee joint. Each boot is then shaped so that a definite slope is evident between the front and back with a small vee filed in front of each boot and the corners rounded off.

The boots are now cemented on to the leg stumps, making sure that the figure



Completed trumpeter model; the neat wood block base completes an elegant display piece and can be simply made.

COLOUR SCHEME

Bearskin	Black with silver running horse bade at rear-facing right.
Hackle	Scarlet.
Chinchain	Gold.
Collar and Epaulettes	Blue with gold facing.
Tunic	Scarlet with gilt buttons.
Pouch Strap and Pouch	White with gold buckle, slide and tips. Plus gold eagle on couch.
Waist Belt and Sword Slings	White.
Gauntlets	White.
Pantaloons	Blue with yellow stripe.
Boots	Black with steel spurs.
Sword	Silver with white sword knot and grey handgrip.

Each sleeve is adorned with an Austrian knot in gold, the rear tunic skirt is also piped in gold, and the tunic front is piped in blue.

will stand level when the cement has dried. At this point it is necessary to fill the large gap between the top of each boot and the leg stumps. This is easily done by cementing pieces of plastic sprue inside each boot and leg stump, so that the gap is spanned. It will be found that three pieces of sprue can be cemented to the inside of each leg. Plastic putty is then applied to the gaps between the pieces of sprue and gradually built up until the correct leg shape is formed.

The left arm, gauntlet and sword is assembled and attached to the body, this

being followed by assembly of right arm, gauntlet and trumpet which is positioned so that it rests on the right thigh. The banner is cemented to the trumpet if desired. The trumpet sling passes over the right shoulder and under the epaulette which is added later. A red, yellow and blue strand of embroidery silk is used for the trumpet sling, all three being tied together at one end and then twisted together to obtain an even spiral in this sequence. Cement the centre of the sling to the right shoulder and attach each end of the sling to the trumpet.

Make up the augillette from yellow embroidery silk. One single strand making a complete loop is passed over the left shoulder, under the arm, and attached to the top of the shoulder. Two additional strands, each being looped and knotted are then draped from the left shoulder and passed through a hole drilled in the left breast just below the pouch strap. These re-appear through a further hole drilled between the second tunic button and the pouch strap. Each end is pulled through the hole and bound at the ends with fuse wire.

Epaulettes are now added to each shoulder, these being of the conventional type and produced from Plastikard. Cement in place with the addition of a small button made from stretched sprue, each button being placed at the collar end of the epaulette.

File away the waist belt and buckle and replace with an 'S' hook fastener mounted horizontally in the centre of the belt. Sword slings are added from toothpaste tube as previously described, but in this instance the slings are attached to the tunic waist belt.

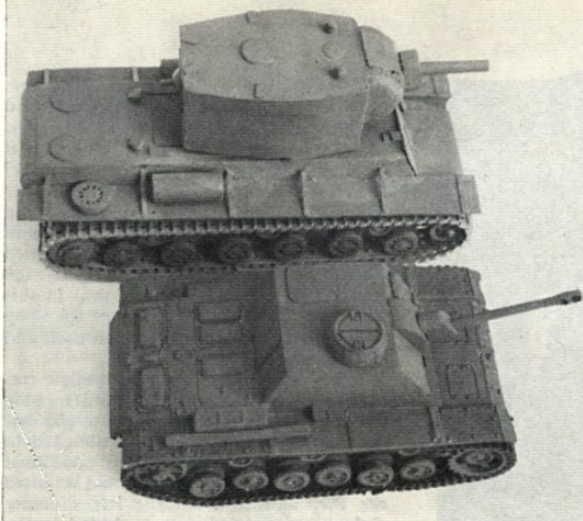
Cement the pouch to the back of the figure and add the French Eagle from Plastikard. Two smaller eagles are added to the tunic collar. It is important that the heads of each eagle should face each other.

Finally, remove the buttons from the rear of the tunic, file the tunic skirt to a smooth surface and replace the buttons as follows. Two buttons in the centre, just below the waist belt, and two rows of three buttons on the rear tunic skirt. The figure is then cemented on to the base provided for the foot guard and the whole assembly given a coat of matt white.

The writer wishes to thank Mr W. A. Thorburn (Keeper) and Mr R. G. Ball of the Scottish United Services Museum, Edinburgh, for their invaluable assistance in the preparation of this article.

Left: This picture sent in by reader Stewart R. Burdon shows further conversion ideas in 1:12 scale. From left to right: 1854 Russian Artillery of the Guard, Gunner, converted from the Coldstream Guardsman; 1812 German Württemberg Guard Artillery, Gunner, converted from the Lifeguard Trumpeter; 1814 British 92nd Highlanders, Private, converted from the Coldstream Guardsman and Julius Caesar; 1868 American Confederate 22nd Mississippi Rifles, converted from the Coldstream Guardsman. Generally speaking they follow similar conversion techniques to those described in the article above. The main requirement is good reference views of the original to provide colour details and a guide to the equipment carried.





Above: Comparison of the Su-76i with another Russian tank, the KV2, made from the Airfix Joseph Stalin kit.

The Su-76i

A simple and unusual Soviet self-propelled gun model

By T. J. Gander

WHILE reading John Milsom's excellent book *Russian Tanks 1900-1970* I came across a reference to a self-propelled gun mounted on a captured German chassis and referred to as the Su-76i. The text describes this as a Russian conversion of the StuG III to carry a 76.2 mm M-1942/43 anti-tank gun, so it provides an opportunity to utilise the Airfix StuG III for yet another conversion which seemed at first sight to be fairly straightforward.

The first part of any kit conversion is always the research into the vehicle and the hunt for references, illustrations and drawings. This is where the snags arose as there doesn't appear to be any reference to the Su-76i except in Mr Milsom's book and the Polish *Wozy Bojowe*, and they both use the same heavily retouched illustration (shown right). Apart from those two references I could find nothing. However, the conversion still seemed worthwhile and a useful addition for anyone interested in the Russian Front during 1942-43, so I went ahead and used the photograph alone as the basis for the conversion.

Close scrutiny of this photograph made me doubt, however, whether the vehicle shown was ever a StuG III. It seems more likely to have been converted from a Panzer III for two reasons. One is, why should the very practical Russians alter a StuG III so extensively when the 76.2 mm gun would probably have fitted into the existing superstructure? The other point is what appears to be an aerial trough alongside the engine compartment. On no photograph of a StuG III can I find an aerial trough shown—but it was a standard fitting on the Panzer III. So I decided to go ahead on the assumption that the Panzer III was the basis.

The StuG III kit is, of course, the prime requirement of the conversion, with some plastic card and bits from the spares box. Construction is fairly simple. First, cut the hull top (Part 57) across behind where the superstructure rear meets the engine compartment, and again at a point where the superstructure front meets the track guard top—at this point a bracket line is moulded on to the track guard. Use a fine razor saw to make the cut. Then assemble the hull sides (3 and 54), bottom (58) and of the butchered hull top cement on only the engine compartment and the front portion—the superstructure section can be incorporated

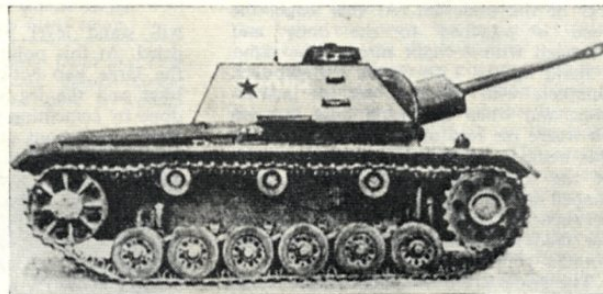
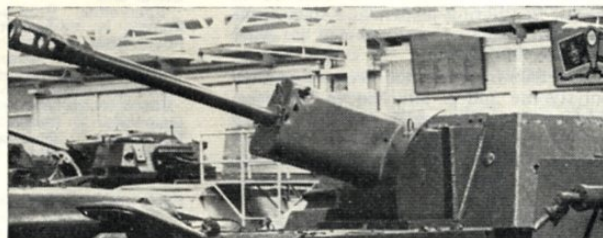
into a StuG IV conversion. Next, cut two 8 x 28 mm strips of suitably thick plastic card and cement them into place to form the new track guards.

Next, cut two superstructure sides as per the drawing. A 4 x 23 mm strip of card forms the lower half of the superstructure front. With the sides vertical, cement them in place along with the lower front plate and cut the rest of the front, top and rear to fit and match the slopes of the hull sides. The main assembly is then completed apart from the gun. This was the front 24 mm of a Panther barrel with the muzzle brake smoothed out, using the photograph of a Su-76 (note, not the Su-76i) at Bovington as my reference. The same photograph also served to model the mantlet and detail of the external mounting (filed from scrap plastic) as the Su-76 and Su-76i both used the same gun. However, note the slight differences in the recuperator shield—on the Su-76i photograph it slopes backward on its front face.

Detail can now be added. The commander's hatch came from a Panzer IV kit and the tool boxes from the T-34 kit. The aerial trough was knocked up from scrap, and the visor for the gunner was an altered Panzer IV part. The top and rear hatches came from thin plastic card and the driver's visor was from the original StuG III kit. After assembly of the suspension exhaust (59), and filling the spare wheel holes on the engine compartment with plastic putty, the model is ready for painting. Mine is painted a matt olive green and after being photographed was given the usual worn and battered look with a dry stipple brush loaded with gunmetal paint and then a dusting over with the same brush dipped in khaki and dark earth. Despite the evidence

Continued on page 217

Right: 1:76 scale drawing of new barrette for Su-76i. Below from top to bottom: Close-up of mantlet on an Su-76 at Bovington; Su-76i showing running gear and typical markings, of red star and the numbers '043' in white; completed model showing barrette, mantlet and hull details as described in text.



Fallschirmjäger

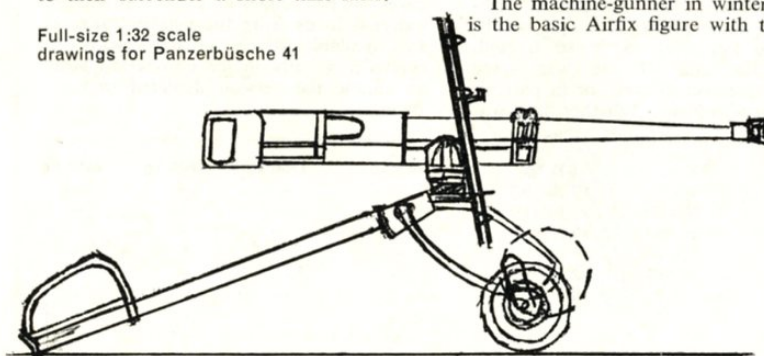


By Robert C. Gibson

THE success of the 1st Fallschirmjaeger Division in Sicily brought an expansion of the paratroop force; but in name only. A very small percentage of the 11 divisions formed between 1942 and 1945 were trained paratroops and few of these were veterans of the early Fallschirmjaeger units. Many of the replacements came from the Luftwaffe Field Divisions, hurriedly formed in 1941-2 from surplus recruits and ground staff. Few of these divisions proved to be of quality; those that were remained in being, the others were disbanded, or split to form units for fresh divisions. The Fallschirmjaeger Divisions, and the Hermann Göring Panzer and Panzer-Grenadier Divisions were so formed. The allocation of these troops with seasoned infantry in the new units often worked wonders.

The final German parachute operation of the war was during the Battle of the Bulge on December 16, 1944, when a battalion-strength unit was dropped behind the Allied lines. Dispersion during the drop, inexperience and vigorous American counter action all contributed to their surrender a short time later.

Full-size 1:32 scale drawings for Panzerbüchse 41



December 1971

Uniforms 1943-45

With the habitual use of paratroops in the infantry role, the smock underwent a partial replacement by a tunic-length camouflaged garment, in similar colours to that depicted last month. The original camouflage smock continued in use right up to the end of the war, but in diminishing numbers. A similarly-patterned cover for the paratroop helmet was issued, with a band round the front. Also nets of grey-green twine were used at this period. Both these devices served to retain camouflage material when in action.

Winter suits had been in use since winter 1941 on the Eastern front; these were of the mountain troops' pattern, ie, white anorak jacket, with hood and trousers gathered into the tops of the boots. Helmets, at least initially, were blue-grey, but later became seasonally covered with a white or camouflaged cover.

The characteristic Fallschirmjaeger helmet was sometimes discarded for the standard Wehrmacht 'stahlhelm' with Luftwaffe emblems. This was as a result of local supply problems.

Weapons

Despite the non-existence of parachute operations, development of airborne weapons gathered pace from 1942. A 105 mm recoilless gun joined the 75 mm weapon, and a 4.2 cm anti-tank gun briefly replaced the Panzerbüchse 41 (again, till the ammunition ran out).

Personal weapons kept pace with the rest of the Wehrmacht, and the Gewehr 41 and 43 semi-automatic rifles came to be used, as well as the MP43 and MP44 sub-machine guns. Special weapons came too; the FG42 (Fallschirm-Gewehr = Paratroop weapon) automatic rifle was issued exclusively to the Fallschirmjaeger units. In 1944-45, however, some units had to be issued with old stock, and the FG42 and MP44 were to be seen side by side with the M18 Bergmann sub-machine gun and the Gewehr 98 rifle. The Bergmann and the FG42 will be dealt with in model form next month.

Modelling

Our feature this month is exclusively 54 mm and centred round the Panzerbüchse 41. First of all, though, let us look at the accompanying figures.

The machine-gunner in winter uniform is the basic Airfix figure with the MP38

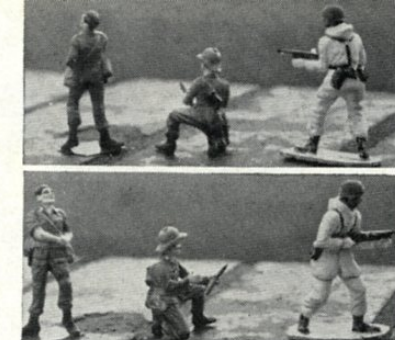


Figure conversions described in text.

magazine moved forward to the correct location. The anorak and trousers are fashioned from Plasticine as described in the earlier articles. After painting, the helmet is 'frosted' with almost-dry white paint, as are his eyebrows, moustache and the MP38 itself.

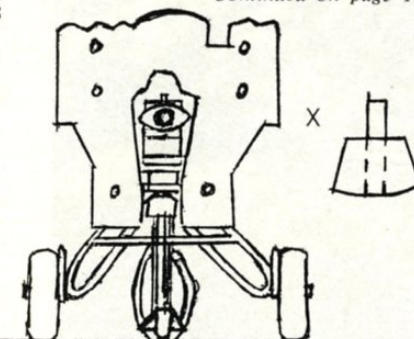
One of the two crew figures for the Panzerbüchse 41, the loader, wears a tropical helmet. This figure is a standard Almarks Panzer-Grenadier, posed using Tamiya spare arms, and plastic putty for the baggy trousers, to represent a gunner from the Ramcke Brigade. The tropical helmet is an Almarks German helmet with the brim cut away at the sides to form a slope front and rear. The upper brims are filed down, and pieces of plastic card (20 thou thick) added front and back to increase the brim (2 mm front, 3 mm back). The crown is sanded to make it less 'square' in appearance. Plastic putty is added to the new peak and the top centre of the helmet, then filed when dry to form the new brim and domed ventilator on top.

The other crewman (on the lookout for Allied aircraft) is the wounded man from the Almarks US Infantry: trimmed to shirt-sleeve order with a sharp knife and mounted on a Plastikard stand.

For the Panzerbüchse 41 itself you will need: Minitrans 155 mm M2 'Long Tom' gun, 20 and 60 thou Plastikard, 20 thou plastic rod, one plastic drinking straw, a suitable pair of wheels (see drawing), and plastic putty.

Start by cutting away the rear of the 'Long Tom' barrel (measure against the drawing, allowing about 20 thou for the muzzle brake front). Then cut the block from the barrel on the scrap piece and trim to fit in front of the existing block, under the barrel. Fit a 10 x 5 cm piece of 20 thou Plastikard over the rear end to form the top of the breech (this may

Continued on page 197





Left: Luftwaffe ground crew handling what appears to be an SD 1000 bomb. The colour identifying stripe is just visible lower right. A Ju 88 is in the background. Bottom: An SD 500 (dark green) in foreground and SC 500s at rear with ground crew taking a rest.

Luftwaffe Bombs

Types and designations explained
by B. Hygate

UNTIL a short time ago, a bomb was something you hung under your model aircraft, and painted it dark green or matt black as appropriate. But whilst drawing up some large-scale plans which involved underwing stores, I found that the above was by no means correct. The aircraft I was researching was a Luftwaffe type, and as with so many subjects of that era, there are many conflicting ideas and theories.

Recently I was able to spend a day at the Defence Ordnance Disposal School, near Rochester, where I could measure the actual weapons.

I was escorted throughout by one of the resident RAF NCO Disposal Experts, who also proved to be a 'mine' of information (no pun intended), about the German bombs and their markings.

The Germans, like all other countries, had a multitude of specialist weapons, and no attempt has been made to cover these as space would not permit. Therefore only 'General Purpose' bombs have been included, that could be carried by most types of combat aircraft with little modification.

The designations of the German bombs fell into three basic classifications:



SC (Sprengbombe Cylindrisch)—Thin wall, general purpose, HE bomb.
SD (Sprengbombe Dickwändig)—Thick wall, HE, armour piercing or semi-armour piercing bomb.
PC (Panzersprengbombe Cylindrisch)—Armour piercing, extra thick walled bomb.

Some sources have given the 'S' in the classifications as Splittebombe, ie, fragmentation bomb, but the above was taken from the official classification given during the war.

The designation then gave the bomb's weight, eg, 250, 500, 1,000 kgs, and various sub-types were given an alphabetic suffix.

eg, SC 500J: Type SC — 500 kgs—Mark J.

Markings and Colour Schemes

Luftwaffe bombs were generally of two basic colour schemes, these being either dark green or light blue/light grey, but as in all things during a war there were many variations and exceptions. No hard and fast rules can be given, and therefore the following examples are those which were actually recorded.

Bombs usually carried externally were light blue or light grey, and those for internal stowage were dark green. For camouflage purposes, the externally mounted bombs were sometimes over-painted in dark green, although bombs over 1,000 kgs were rarely so treated. Towards the end of the war some weapons were seen overall, or in part, in natural metal colour. Whether this was

in fact natural metal or aluminium paint is not certain.

One set of markings which were, however, seen on all bombs was the identifying colour painted on the tailcone to identify the type, and thus facilitate the making up of bomb-loads. This was applied in the form of a stripe painted centrally on all four quadrants on the tail cone between the fins (see drawing). The width of the stripe varied, it being about 1½ inches wide on the smaller bombs, and 2½ inches on the larger ones. To add to the confusion, the very small bombs (SC 50, etc) had their entire tailcone, excluding the fins, painted in the appropriate colour.

The colour coding was:

SC bombs—Yellow
SD bombs—Red
PC bombs—Blue

Suspension

Each bomb was suspended by a single attachment point, there being three basic types of these. These were the ring-bolt (for the smaller bombs), the 'T' and the 'H' type (these being for the larger bombs and got their names from their cross-sectional shape—see drawing). There appeared to be no hard and fast rule, for example an SC 1000 was seen with either a 'T' or 'H' type.

Bombs to be used during dive bombing attacks had two trunnion bolts mounted on a strengthening band in line with the suspension lug, and mounted at 90° to it (see PC 1400) drawing). These bolts mated with special fittings on the aircraft's bomb racks.

Fusing

The Germans favoured electrically initiated fuses. Externally all the bombs illustrated had the same type of fuse-head. This was circular, with an outside diameter of just under 2 inches, and the central portion, diameter about 1 inch, looked very much like a rounded electric light bulb connection.

Airfix kits

In their existing kits, Airfix provide reasonably accurate parts of, for example, the PD 500 on the Ju 88 and SC 1800 on the He 111 kits. The following table gives some suggestions for alternative external loads from the present range of kits available, which will not involve the modeller in any major conversion work to enable the version depicted to carry them.

	250 kg	500 kg	1000 kg	1400 kg	1800 kg	2000 kg
Ju 87B	x1 SC/SD	x1 SC/SD	—	—	—	—
Bf 109G	x1 SC/SD	x1 SC/SD	—	—	—	—
Me 262A	x2 SC/SD	x2 SC/SD	x1 SC/SD	—	—	—
Fw 190D	x1 SC/SD	—	—	—	—	—
Bf 110D	x2 SC/SD	x2 SD/SC	—	—	—	—
Ju 88	x4	x4	x2	—	—	—
Do 217E	x2	—	—	—	—	—
He 111	—	1 plus 1	1 plus 1 (not PC)	—	x1	x1

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Drawings are diagrammatic in that the correct fin platform is shown. Bomb suspension is such that the tail section must be rotated 45° so that when hung, the 'X' rather than the 'H' fins form an 'X', rather than a 'H', as they would be if made directly from the drawings. See tail cross-sections for correct fin/lug relationship.

Model Bombs

If you decide to scratch build the bombs, the easiest way is to carve them from balsa, and use plastic card for the fins. But as with other conversions, spare sprue can be used if you can find some of sufficient thickness. Another method could be the re-shaping of other bombs or drop-tanks from the spares box, with suitable additions of plastic card and stretched sprue.

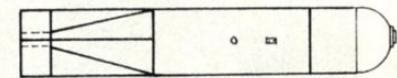
Lug Position

SC and SD 250 and SC 500 Tail-fin Section

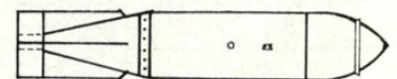
Lug Position

'Annular Ring' Tail-fin Section

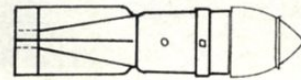
Luftwaffe Bombs



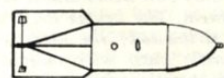
SC 2000



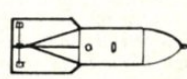
SC 1800 'Satan'



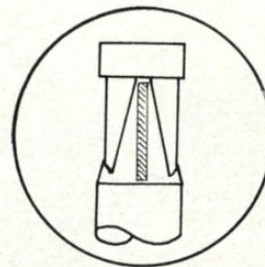
SC 1000 'Hermann'



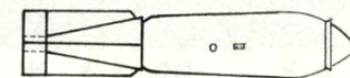
SC 500



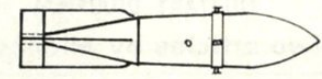
SC 250



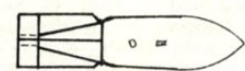
Typical Identity Stripe Position and Shape (1½" wide on small and 2½" wide on larger bombs)



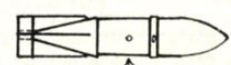
SD 1700



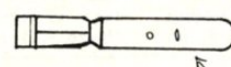
SD 1400 (without strengthening band and trunnion bolts) and PC 1400 'Fritz'



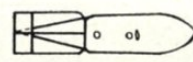
SD 1000 'Esau'



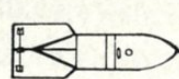
SD 500 (Type 2)



PD 500



SD 500 (Type 1)



SD 250



Fusing Head detail

'Ring Bolt' Lug



Trestle Bridges: 1

SIMPLE ENGINEERING STRUCTURES FOR RAIL LAYOUTS OR MILITARY DIORAMAS

First of two articles by Michael Andress

ONE of the most interesting types of railway bridge from the modeller's point of view is the wooden trestle. Although most readers will associate this style of bridge with the early days of railroading in the United States, and indeed a great number of trestle bridges were built in the US and Canada, many other countries, including, for example, Australia and New Zealand, also have these bridges on their lines. They were built in areas where wood was plentiful, and because they could be built easily and quickly by the construction crews. However, due to the fire risk and the limitations they imposed on the weight and speed of trains, they have largely been replaced by other bridge types, often built up from steel girders. The ease of construction has also led to their use even in Europe as temporary structures to carry construction crew trains while the line was being built; they were then replaced before the line was opened.

Model trestle bridges are interesting and attractive structures because of the

many individual wood strips which give an intricate and highly detailed effect. As construction is carried out in stages by the assembly of a number of easily-built sub-assemblies they are not difficult to build. Of course, a large bridge will take much longer to build but the method is the same as for a small model. Although a wooden trestle is a little difficult to justify on a modern British prototype layout, you will want to include one if you are following US prototype, especially on a branch or period line. Alternatively, if your railway is freelance you may want to build one for your line; they are particularly appropriate on light or narrow gauge railways where trains and engines are light.

This month I want to show you a variety of model trestle bridges of different types and sizes and I hope they may give you some ideas for your layout. Next month I shall give full instructions with step by step photos for the construction of the trestle bridge shown in Photo 6.

Photo 2: A very impressive wooden trestle built in 2 mm scale by Len Fidkin. This superb model won a Bronze Medal at a Model Engineer exhibition some years ago. Although large trestle bridges such as this appear very complex and

intricate, construction is along similar lines to the smaller structures but naturally require much more work and patience to build! The US prototype rolling stock was also scratch built.

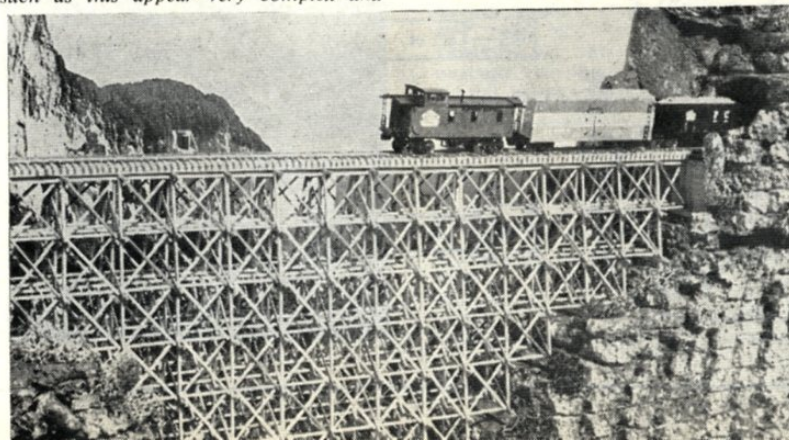


Photo 1: This small trestle bridge is used to carry a track across a river on the 'Frankwerk et Brenalp' layout built by Frank and Brenda Goddard. The construction of this bridge is similar to the model shown in Photo 6 and described in detail next month. Note also how the modellers have carried the two tracks across the river with two very different bridges, a wooden trestle and a stone arch bridge. Most of us have space for only a small layout and to use the area available most effectively you should try to avoid repetition and to introduce as much variety as possible; one good way to do this is to use differing bridge types on your line. This HO9 layout is a freelance line following European prototype and is beautifully finished. Keen-eyed readers will see the two swans at the riverside and just visible through the bridge arch in the centre of the picture; attention to small details like this make the whole scene very effective.

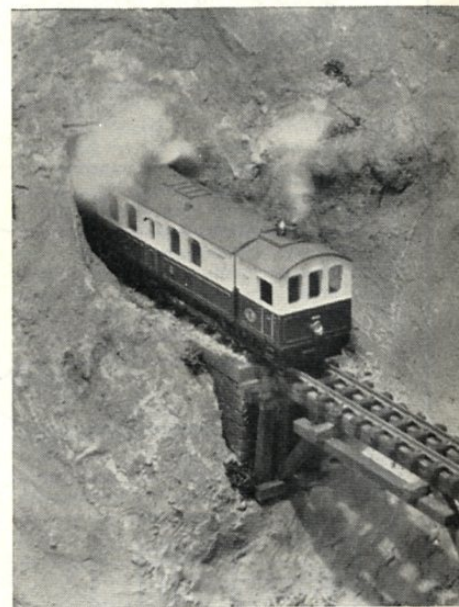


Photo 3: This picture of a scene built by the author shows a Playcraft/Eggerbahn railcar about to cross a small trestle bridge. This is a very simple type of trestle with only two bents and a short span between them. The bridge itself was built up from stripwood; the piers were made from plastic sheet with individual 'stones' of thin plastic cemented to the basic pier structure.

(Opposite page, top)

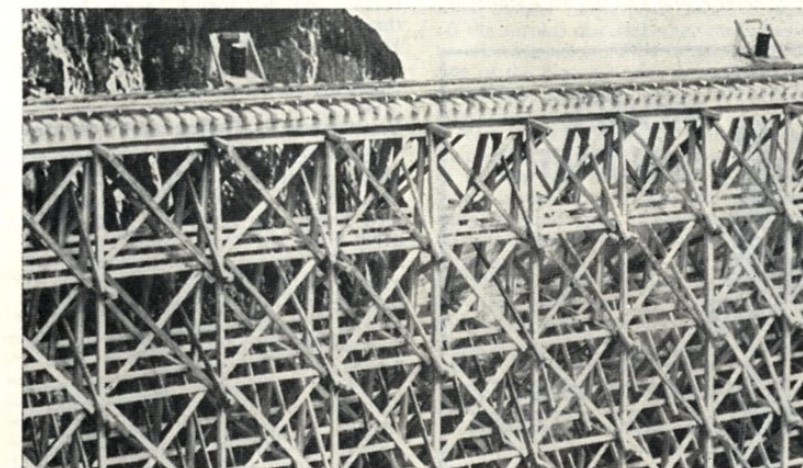
Photo 4: Chris Atherton built a different style of trestle bridge for his N scale US prototype 'Indian Head Loop Line'. Note how the design is modified to provide for a span to pass over the lower level track. The stone piers, culvert, and tunnel mouth were modelled using commercially available embossed plastic

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sheet. London readers may be interested to know that this layout, which measures only 16 inches by 32 inches, is on permanent display at Norwood Junction Models shop.

(Below)

Photo 5: A close-up of the model shown in Photo 2 shows up the details more clearly. Note how neat construction is and remember this is in 2 mm scale! The two barrels on the bridge were provided on the prototype in case of fire. Though all the models shown are for model railways, exactly similar bridges can be built effectively in military dioramas or for wargames.



Fallschirmjäger—from page 193

be cut away on the right-hand side for added realism), and build up the sides with plastic putty. Cut the front of the muzzle brake from 20 thou Plastikard, cement to muzzle and build up with putty, then lay aside to dry.

Take the drinking straw and cut off a 53 mm length; block one end with scrap hard plastic. Cut the rear spade and platform from 20 thou Plastikard, and fit to the blocked end. Cut the bracket for the other as shown in drawing 'X', and fold as indicated, then cement to the tube.

Now bend the plastic rod carefully with round-nosed pliers to form the front wheel assembly. Start at the big bend at the wheels, allowing plenty of rod. When you have made the bend, gradually put the other bends in, using the drawing as a guide. This is largely a matter of trial and error; and, of course, if at first you don't succeed, try again. When you have a good set, cement them to the bracket. Bend the rear tubular handles from plastic rod and fit.

The wheel position shown dotted is the low anti-tank position; if you wish to emulate this in your gun, the side fitting of the rod to the bracket needs to be lower than shown.

Take up the barrel again, and when

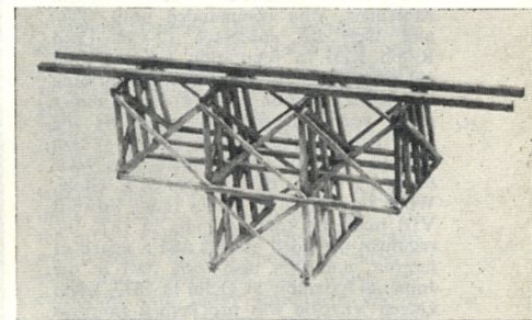
the putty is dry, sand breech and muzzle brake to shape. Make up the 'empties' tray below and behind the breech from 20 thou (sides) and 60 thou (bottom) Plastikard (or Faller angle iron as in the original). Leave room at the breech end for the sliding breech plate 2 mm x 1 mm notch at front end.

Make the breech plate from 6 x 6 mm 60 thou Plastikard. The rear breech block from three laminations of 60 thou Plastikard, 7 x 5 mm, cemented together, and sanded square. The rear 'handles' are made of 7 x 8 mm 20 thou sides, rounded off and with the centre cut out as shown. Fit to a 5 mm wide strip of 20 thou Plastikard to form a closed box. Cement this to the rear breech block.

If the breech is to be open, cement the items just described against one corner of the breech plate, the protruding edge against the left-hand edge (rear) of the breech, so that the block and handles are shifted to the left, and the tray is clear.

If the breech is to be closed, cement the breech plate centrally with overlap either side, and the rear block behind. Make the trunnions for the barrel assembly from Plastikard (20 thou) and fit two 3 mm lengths of plastic rod as gun-shield supports.

Photo 6: This small N scale trestle was built up from stripwood and construction will be described in Part 2. It would also be suitable, either as it is or preferably built with all dimensions increased by a third or a half, for OO scale build with all dimensions doubled.



Fit a 5 mm square piece of 60 thou Plastikard over the front part of the carriage bracket. Cement the trunnion to this, and the barrel assembly to the trunnion. Make up axle units from scrap plastic and fit wheels. Cut the gun shield (2 of) from 20 thou Plastikard, and use plastic rod for 'spacers'; fit to supports on trunnion.

Paint the entire gun in the basic camouflage colour: this is either Desert Yellow or Panzer Grey, the latter for early airborne or 1945 infantry use. These guns invariably had their barrels, gun shields and carriage liberally grimed with burnt powder. The muzzle brake was blackened steel.



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Typical North West Frontier scene is re-created in miniature with these 10th Hussars signallers on a mini-diorama made from real rocks. This article continues from last month.

LAST month we dealt with the construction of a figure depicting the NCO in charge of a heliograph signalling group of the 10th Hussars during the Afghan War 1878-1880. Before going on with instructions for making the rest of the group and the diorama display base, some further background details regarding the regiment at this period might not be inappropriate.

Since 1873 the Tenth had been in India, and had acquired, under Lt-Col Molyneux, who commanded until 1876, and then his successor Lt-Col Lord Ralph Kerr, a reputation for zeal and efficiency, even to the extent of forming an artillery section with two six-pounder guns, and instruction provided by the RA. They also pioneered a new system for dismounted action which was later taken up by the cavalry arm as a whole. When the Prince of Wales (later Edward VII) made his tour of India in 1876 the regiment provided escorts and a guard of honour, and they also took part in the Imperial Assembly at Delhi in 1877, when Queen Victoria was proclaimed Empress of India. On off duty occasions the Tenth were also well to the fore, with a surprising number of sporting and enter-

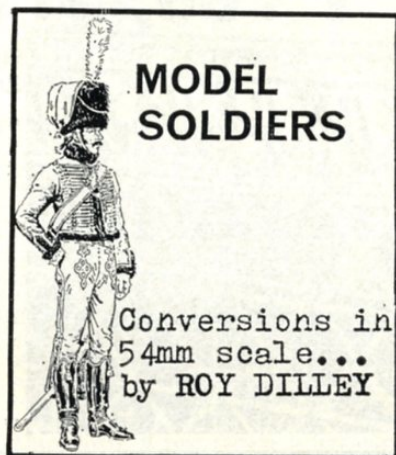
taining activities catering for all ranks in and around their pleasant station at Muttra near Agra, the location of the famous and beautiful Taj Mahal.

During the first part of the Afghan War the regiment saw much service, including the attack on the fort of Ali Musjid, and experienced at the Kabul River the disaster which I described last month. In June 1879, after a temporary cessation of hostilities, the Tenth were marching back to India through the Khyber Pass when misfortune again struck them in the shape of a terrible cholera epidemic. No less than 38 men died of the dreadful disease in as many hours, and this awful loss, together with that sustained in the Kabul River incident and many other deaths due to service and disease, so decimated

the regiment that it remained in reserve at Rawalpindi during the second phase of the Afghan War, and took no further active part in the campaign.

Subsequently, until they embarked to return to England early in 1884, the 10th Hussars were stationed at Lucknow, where they steadily improved their strength and regained their efficiency. This was just as well for, as their ship was passing through the Red Sea, the Soudanese rebellion broke out, and they were diverted to Suakin to take part in the campaign in and around that port. The regiment's service in the Soudan included the battles of El Teb and Tamai, in both of which repeated and successful charges were made against a valiant and determined enemy. Finally, the Tenth returned to England in April 1884 after some 11 years overseas service.

Now to continue with making the remainder of the group.



Conversion 2: Heliograph operator

Figure required for this is the Almarks marching Japanese soldier. Clean off in the usual way all mould marks and flash, then remove all equipment and pocket detail from the tunic, being careful to retain the basic shape. Rework the tunic neck to the high collared pattern (Fig 1), then take off the Japanese head, replacing it with a suitable European type from your spares box or cut from an Almarks American or German figure.

Next, alter the leg action to bring the figure to a standing position. This is effected by moving the right leg somewhat to the rear and by straightening the left leg at the knee (Fig 2). Shape the trousers tight to the knees and add plastic

putty to the thighs to form the typical flared cavalry riding breeches. Now haversack, waterbottle and pouch are fitted as in Conversion 1 (last article). These items are fabricated from scrap, the first two fitted to the left side of the figure with straps over the right shoulder, and the last hangs at the centre of the back from a wide strap or belt over the left shoulder, passing round the body. These straps can be made either from thin plastic card or from stout notepaper smeared, when in place, with liquid plastic. Careful study of the photographs will show exactly the positions for these details of equipment.

Select arms in appropriate attitudes from the arm-sprue or your spares box and cement them in place, adding shoulder straps of plastic card or paper. Having trimmed a Japanese helmet, fit it to the head, adding a generous coating of plastic putty which, when thoroughly set, is sanded down to shape as in Conversion 1 to form a Wolseley type helmet with cover attached. Drill a hole in the top and insert a length of stretched sprue or plastic rod which can then be filed to a spike. Chin scales of thin plastic or card are then fitted, either under the chin, or hooked up to the base of the spike as shown in the photographs.

Cement thin plastic card sword slings to the tunic skirts (Fig 3) and short lengths of fine sprue, to simulate spurs, into holes drilled in the boot heels. Spur straps, plastic or card, are then fixed across the insteps, and a check is made to ensure that the full sequence of operations has been carried out and that joints, etc, have been smoothed down where necessary. Fix the figure to a temporary base, and undercoat it ready for painting.

Conversion 3: Seated man

Figures required are the Almarks wounded Jap soldier, seated, and kneeling medical orderly. Having cleaned up the seated figure, shape the legs to give the riding breeches effect as in Conversion 2. Cut off both arms and the haversack, and smooth down the tunic skirts. Then remove the upper torso at the waist, replacing it with that of the kneeling man. Carve the tunic neck to the high collared shape, and sand off the breast pockets. Also, at this stage, change the head for one of European type, and fit haversack, waterbottle and pouch belt as already described above. Cement arms in place with the right hand holding a pencil and the left with a message pad (Fig 4) and fit shoulder straps of plastic strip or card.

Trim another helmet and attach it to the head, carrying out all the operations previously described to obtain the helmet shape, spike, and chin scales. Finally, drill out the heels and fit spurs and straps to the boots before fixing the completed figure to its temporary painting base.

The Heliograph

Using the dimensions given in Fig 5, cement a tripod together, with Slater's plastic rod or thick sprue for the legs. A

scrap of card and some thick fuse wire are then employed to make the mirror and swivel (Fig 6), and a fuse wire sight is bent and attached to the swivel. Fashion from scrap the carrying case and fix it to the tripod legs, with a strap passing round them and another small retaining strap on one leg only. Care should be taken to keep all detail sharp and free from cement blobs and smears.

The Diorama Base

Cut a 3½ inch × 3½ inch piece of 1 inch thick block board or balsa and sand it completely smooth all round. Cover one side with green baize, felt or flock-paper, cut slightly oversize and bonded to the wood with Unibond or some similar all-purpose adhesive. Trim off the surplus material when the adhesive has thoroughly set. This forms the underside of the diorama, and prevents it from scratching polished tables or display areas.

Now select a couple of flattish wedge-shaped rocks and attach them securely to the top side of the base. It is worth taking some trouble over the selection, since a good deal of the realism and attractiveness of the finished scene will depend upon the shapes and textures of the rocks. I am fortunate in being able to obtain specimens of many kinds of rock from my native Cornwall, but most localities can produce perfectly satisfactory material, old stone walls or derelict buildings being particularly likely sites.

Epoxy type adhesive, Devcon, Araldite or similar, is best used to fix the rocks firmly to the wood, and they should be allowed to project forward over one edge of the base to create an impression of height (Fig 8).

Coat the remaining area of wood around the rocks with Unibond and sprinkle on coarse sand or crushed rock, pressing it well down on to the adhesive. Shake off loose material when dry, and re-coat any bald areas, then attach a few smaller stones to the sand. A glance at the sketch and photographs will show how this is done.

Finish off the diorama base by applying a 1 inch black self-adhesive tape, PVC is ideal, around its edges, and it is ready to receive the figures.

When these have been painted and are thoroughly dry, detach them from their temporary bases and fix them firmly in



Pictures on this page show the complete group arranged on the scenic base, plus a rear view of one figure. This small diorama won first place in the October competition of BMSS.

position on the rocks. Use epoxy adhesive for this purpose, and make sure that any excess material that may get smeared on the rock surfaces is well toned in with paint so that it matches the original colour.

Having painted three Martini-Henry carbines—these can be scratch-built, converted from Almark rifles, or purchased as metal castings from Greenwood and Ball, c/o 2 Imperial Drive, North Harrow, Middlesex—fix them to the diorama in appropriate positions.

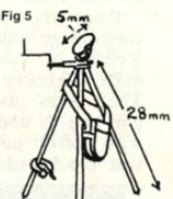
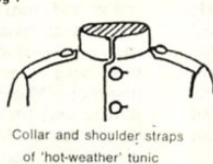
I have depicted the men of the section without their swords, since in practice these weapons would have been left with the horses under guard. After all, a man would find it difficult enough to climb a steep and treacherous slope whilst encumbered with heavy equipment and a carbine, without having a sword dangling at his hip and threatening to catch in crevices or get between his legs at every step.

Those of you who tackle this little diorama will, I hope, find it very satisfying and not too difficult. Those who are familiar with the techniques may care to construct it by using plaster of paris or Polyfilla over suitable base shapes, then carving and pointing the rocks in the manner described by Michael Andress in his articles in this magazine, from time to time. However, the advantage of using real rock lies in the textures which are difficult to reproduce artificially.

View below shows clearly how the group is arranged on the rock base. Note the carbines resting against the rock.



Fig 1



The Heliograph: Showing dimensions of legs and mirror. The carrying case is slung over the tripod by its strap.

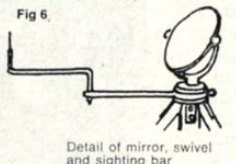


Fig 2



Fig 3

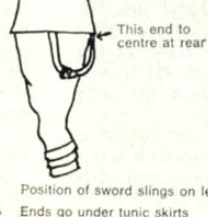
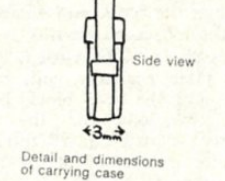
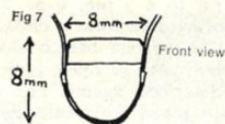


Fig 4



Remove wedge-shaped portion of right leg at A and bend leg to rear before cementing. Cut almost through left leg at B, bend forward and cement, filling in gap behind knee with scrap or plastic putty. When set, shape trousers to riding breeches.



Position of sword slings on left hip. Ends go under tunic skirts.

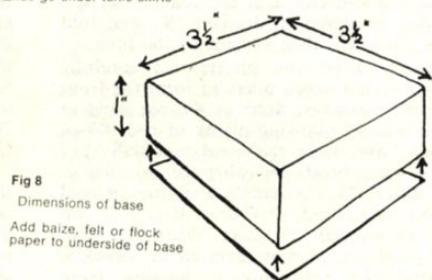
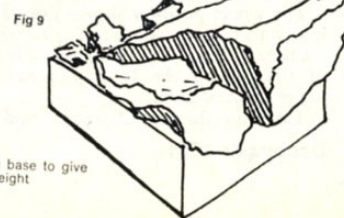


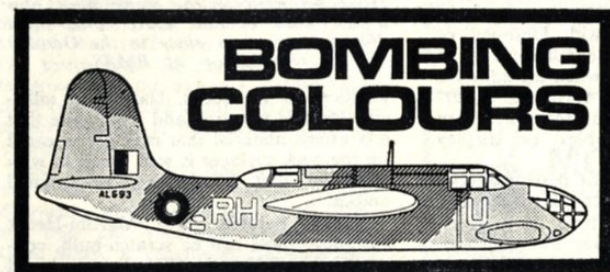
Fig 8 Dimensions of base. Add baize, felt or flock paper to underside of base.



Rocks overhang base to give impression of height.



Blenheim Mk I, L4911: H-AD, of 11 Squadron in India. It wears Type B roundels and rudder serial in this wartime photograph (MoD).



Part 31: Japan enters the War

LONG before the war, thought was directed to the defence of Singapore, the naval base from which Britain ruled the eastern seas. The Lords of the Admiralty maintained that any attack upon the base would be from ships of the Japanese Navy, and that it would be a frontal assault. To counter this an assortment of guns was installed pointing seawards, among them 15 inch naval guns. To support their plans the Admiralty requested reconnaissance flying-boats and later some torpedo bombers.

To the Air Staff an entirely different direction of attack seemed possible, eg, landings in Malaya and backdoor entry to the island. This notion was largely dismissed by the principal occupants of Singapore, at great cost when the Japanese finally did attack. But once the possibility of a northern attack was accepted, a start was made at building a string of airfields throughout the Malay Peninsula, difficult because of the vegetation, terrain, shortage of labour, and weather hardly conducive to the effort required: not to mention a general lack of belief in the need for the work.

During August 1939, two squadrons of Blenheims left Britain for Singapore. They were No 34 Squadron from Watton and No 62 from Cranfield. Among the Blenheim Is which 34 took were L1349, L1394, L1395 and L8366. 62's aircraft included L1131, L1133, L1134 and L1259. These aircraft in Dark Green/Dark Earth/Night finish, with Type B roundels, wore their respective code letters, but on arrival at Tengah the codes were changed, 34's to EG and 62's to PT. In India before the war, Blenheims were flying with Type A fuselage roundels and it is believed these were worn by the two Singapore-based squadrons. Also available at Singapore were Nos 36 and 100 Squadrons flying antiquated Vildebeest torpedo bombers. Both squadrons, like those in Coastal Command, were scheduled to re-equip with Beauforts. The intention was to increase squadron strength in about 1940, and if there was any emergency, aircraft could be quickly flown to reinforce the Far East units via the many staging posts Britain held in the eastern world. The dangerous parallel between this plan and that which currently exists is plain to see despite the change in the world pattern. When the need for reinforcement arose the war in the Middle East was commandeering all the available reinforcement aircraft. The Royal Navy, in whose hands the defence of Singapore largely rested, was likewise fully engaged elsewhere to the limit of its strength and regrettably British politicians never seem to learn from the most bitter experiences.

By 1941 it was only too apparent that the Royal Air Force

would need to take the lion's share in defending Britain's Far East territory. Its weakness there was extremely alarming, and so every means needed to be used to ensure the Japanese were not drawn into the war. A risk existed that the Japanese would invade Siam then stage an assault through Malaya. When this seemed likely, contingency plans for a British incursion into Siam, and the bombing of any airfields the Japanese might then seize, were brought to a state of readiness. Their enactment would have precipitated war with Japan, and so the British stayed their hand.

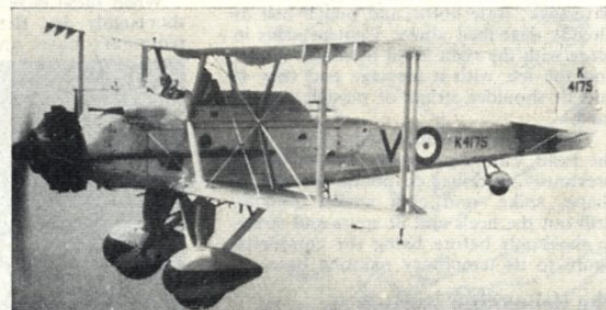
By December 1941, all aircraft in Singapore and Malaya were outdated. Amazingly there was no combined headquarters to control defensive operations for the 13 new operational airfields. This was to be a very serious omission.

Early in the month, Hudsons of the RAAF spotted large convoys of Japanese ships off Siam. The signs were ominous, but it was still policy to in no way provoke the Japanese. Then came Pearl Harbour, and on December 8, 1941, Japanese bombers raided Singapore.

The RAF bomber force in Malaya presently comprised about 35 Blenheims. These were mainly the Mk IVs of 34 Squadron still at Tengah, and Mk Is of 62 Squadron at Alor Star, whence they had moved in February. No 62 had about a dozen Blenheim Is. These were supplemented by a small detachment from 60 Squadron, Rangoon, on armament training at the Kuantan practice camp. The rôle of the two operational squadrons and the RAAF Hudsons was an anti-shipping one. Some crews for the squadrons had partly trained at a makeshift OTU established at Kluang, and equipped with Wirraways, ex-21 Squadron, RAAF, and some Blenheims loaned by 34 Squadron. It immediately disbanded when the Japanese attacked. All the units were very badly off for spares, so much so that they were permitted to fly each aircraft for only a maximum of five hours per month, so there was little flying.

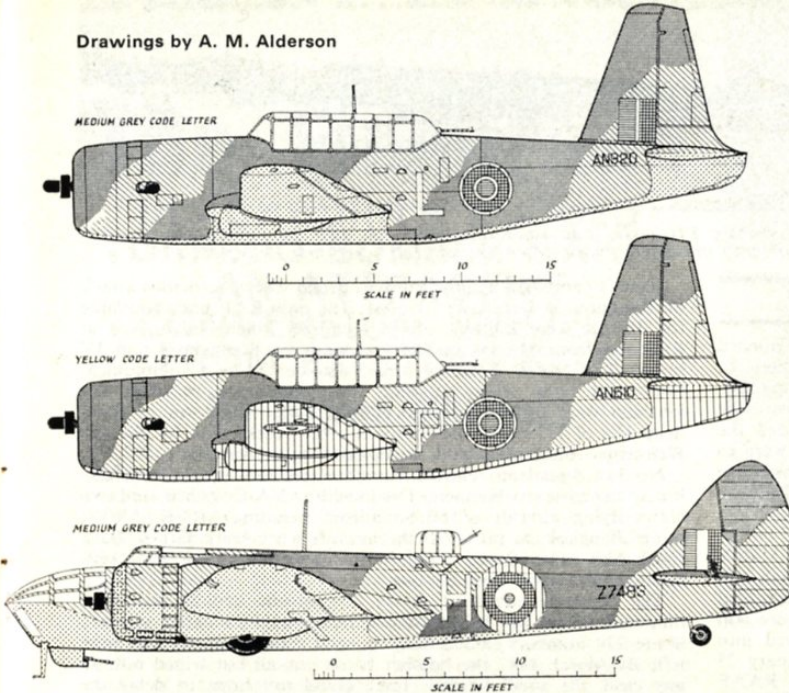
Such fighter support as might be available gave cause for alarm, for the aircraft would be Buffalos in squadrons only half ready for action. They faced a modern Japanese naval force whose equipment included the Mitsubishi Zero which, due to confusion in high places, they knew little about. Possible assistance might come from 22 Marylands and nine Buffalos that the Dutch had in the East Indies.

Hudsons and Catalinas watched enemy shipping on December 6 and 7 and on the latter day one of 205's Catalinas was shot down. As Singapore was being bombed, a Japanese Army force



K4175, a Vildebeest III, which type was used by the two squadrons Nos 36 and 100 based on Singapore. This aircraft belonged to No 36 Squadron.

Drawings by A. M. Alderson



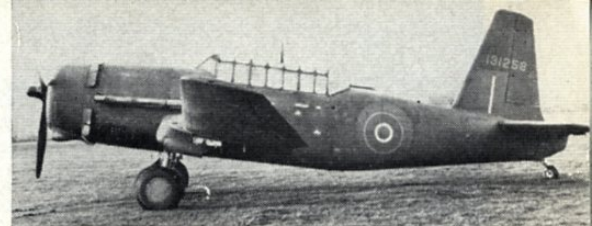
COLOR KEY:

RED	WHITE	BLUE	YELLOW
DARK GREEN	DARK EARTH	SKY	BROWN

Top to bottom: Vengeance I AN920: L of 82 Squadron based on a photograph taken in March 1943. Vengeance II AN610 recorded at Feltwell August 19, 1943, when with the Bombing Development Unit. Note the old type under wing roundel, in use long after it had been officially discarded. Such anomalies were not common—but this gives credence to the effect that official dates for marking changes cannot be accepted as giving a blanketing order and leading to full change. AN838-AP137 were Vengeance I, and EZ800-999 were Vulture Vengeance IA, Northrop-built and delivered under Lend-Lease. AF745-944 and AN538-837 were Mk II, Vulture-built and delivered against British contract. The Mk I had the Wright GR-2600-A5B5 engine and probably the Mk IA had the 2600-19 engine. The Blenheim IV is Z7483 of 60 Squadron in use at the start of 1942 in Burma, and is based upon a photograph.

was landing at Kota Bharu on the east coast of Malaya and this was attacked by Nos 34 and 60 Squadrons, also RAAF Hudsons, while 11 Blenheims of 62 Squadron bombed Putani. Also on December 8 the Japanese, who had planned their skilful campaign with care, heavily attacked RAF airfields, destroying three Blenheims of 34 Squadron at Tengah. Next day the Japanese reached Kota airfield and 34 Squadron attacked the invaders. A more important operation was quickly planned, against enemy airfields further north, in particular Singora in Siam. Crews from 34, 60 and 62 Squadrons were assembled at Butterworth where, not long before, Japanese bombers had bombed 62 Squadron as it was landing and reduced its strength to two serviceable Blenheim Is. Just as the big raid was about to be launched, Japanese bombers again struck. Only one crew proceeded on the operation, captained by Flt Lieut A. S. K. Scarf. He reached Singora, in itself a gallant deed. But soon he was attacked by fighters, and mortally wounded. Nevertheless he brought his Blenheim back to Alor Star where he made a forced landing before he died. Record keeping at this time was chaotic and most of the official records for the campaign were lost. Much later, when news of his courage and example were known, Scarf was posthumously awarded the Victoria Cross. It was the first given for service in South East Asia.

On December 10, Singora was again raided by six crews, three each from 34 and 60 Squadrons, three aircraft being lost. No 34 Squadron also made coastal reconnaissance flights from Kuantan, and enemy bombers again bombed RAF bases, forcing 62's two aircraft to flee from Butterworth to Taiping. Then all the Blen-



Top to bottom, above: Vengeance IV 131258 in British hands in 1943. The Mk IV was the A-35A supplied under Lend-Lease and Vulture-built. Many were used in Britain as target tugs. This one has traces of a larger fuselage roundel. AL597, a Liberator II, served with 159 Sqn in India. Another picture of a Liberator II said to be taken in India. It seems possible that this aircraft had served with 108 Squadron before moving eastwards.

heims of 34 and 62 that could be made airworthy flew to Singapore for complete overhaul. On December 12, 34 Squadron yet again raided Singora, but few of the eight crews managed to get there due to poor weather.

It was then decided to hold the decimated Blenheim force at readiness for attacks on further landings on the coast. An urgent call came on December 23 when 34 Squadron was despatched to attack a convoy which appeared to be heading for Sumatra. The crews of 60 Squadron were sent back to Rangoon for possible operations over Burma, their aircraft swelling the meagre strength of 62 Squadron.

On Christmas Eve the strength of 34 Squadron was about ten aircraft, and 62 had seven, all based at Tengah. Urgent pleas for reinforcement had fallen on neither deaf ears nor unwilling hands, but there were hardly any spare Blenheims available and the only possibility was really to transfer some squadrons. A dozen Blenheims were nevertheless despatched, seven of which reached 34 Squadron on Christmas Day.

Fear now was that the enemy would also land on the west coast and for the first few days of January the Blenheims patrolled the area and on January 2, 3 and 4, 1942, attacked Port Swettenham. Such was the confusion now in the Army that useful supplies were being left behind in the hasty enforced retreat, and one of the sad tasks of the Blenheim squadrons was the destruction of sorely-needed supplies and equipment.

In an attempt to operate with reduced losses, some night raids against enemy airfields were attempted in which the Catalinas of 205 Squadron joined. On 15th, three Blenheims operated against barges in the Liuggi River, under an escort of Buffalos, which can have hardly given the crews much sense of comfort. By now the Dutch Marylands had come into action, six of them joining nine Blenheims in an attack on barges in the Muar River on 16th. Next day, Japanese bombers heavily raided Tengah and six Blenheims were badly damaged. No 62 Squadron was now completely decimated and it was decided to re-establish the unit and equip it with spare Hudson IIIs currently arriving from Britain in lieu of Blenheims.

All the time the Japanese Army was successfully conducting its Malayan campaign and advancing towards Singapore. Plans had hastily to be enacted for its evacuation amid scenes of chaos.

Continued on next page



A pre-war shot (1939) of the Blenheims of 11 Squadron wearing YH codes and squadron crests on their fins. Note the Type A fuselage roundels with traces of the yellow surround previously worn when the aircraft were first delivered.

Bombing Colours—continued

Aircrew were a precious commodity and were ordered aboard the troopships, whereas lots were drawn amongst others to see who should go and who be left to the cruelty of the Japanese. One member of 34 Squadron related to me the story of how those tremendously gallant women in the Salvation Army tended the wounded and brought tea and comfort to the men who were to be left behind. As the last ship was about to sail these brave souls refused to board her, so a group of aircrew rushed ashore and dragged the screaming women by their hair to safety.

No 225 Group was formed on January 16 to continue bomber operations from Sumatra. Major reinforcements from the Middle East began to arrive on January 23, too late to save Malaya and too small in any case to stem the assault. Principally involved were Nos 84 and 211 Squadrons, whose ground crews were still coming by sea. Sixteen Blenheims of 84 Squadron moved into Palembang and 18 of 211 Squadron arrived between January 23 and February 14. The remnants of Nos 34, 62 and the RAAF Hudson squadrons were sited on a 'secret' airfield cut in the jungle near Palembang, 34 Squadron bringing its six Blenheim IVs on January 26 and leaving the Buffalos and Hurricanes to fight it out over Malaya. Fewer than 50 aircraft reached Sumatra.

All of the Blenheims were now in deplorable state and the reinforcement aircraft in a bad way after their long flights. The Blenheim force was used for convoy escort and attacks on Malayan airfields, although the journey to the latter was very long and difficult. Between January 30 and February 5 they managed 31 sorties. It was a worthy effort considering that on 31st 34 Sqn had only six Mk IVs, 62 had acquired five Mk Is and 10 Hudson IIIs, 84 had 10 Mk IVs and 211 had four Mk IVs, none of which were in anything but fair condition. By February 14 there were 35 Blenheims left and most were unserviceable. No 27 Squadron, which had served as a Blenheim night-fighter unit virtually wiped out early in the campaign, had somehow contrived to exist again and on 14th its Blenheims, along with those of Nos 62, 84 and 211 Squadrons, attacked a convoy heading for Sumatra. They, with 84 and 211 Squadrons, repeated their attacks on 15th and repelled the convoy by their persistence, only to be ultimately beaten when the Japanese landed paratroops.

With only six Blenheims left between them, the squadrons were ordered to Java on 18th. Five Blenheims next day attacked shipping at Palembang, repeating the operation on 20th and 21st. Then Japanese bombers struck at their new base, Semplak. Nevertheless, they managed to get three aircraft away on 23rd, the crews of which even claimed to sink a Japanese submarine!

On March 1, 84 Squadron was wiped out when the enemy army arrived at their base, Kalidjati, although a gallant band of survivors managed to escape and sail a small boat to Australia which they miraculously reached 44 days later. A grim end came to the Blenheim squadrons, which were simply wiped out. All along it had been the old story—too little equipment and men, the pay-off for years of political incompetence during the troubled peace. Clearly the obvious lesson has yet again not been learnt and in these years of 'peace' in the shadow of those dedicated to our destruction, defence is again neglected.

The Fall of Burma

The Japanese invasion of Burma had a two-fold purpose. A successful campaign would cut the supply route to China, and open the way for invasion of India and a thrust to join the Axis powers in the Middle East. In retrospect this would seem to have been almost impossible, for the supply lines would have required logistic support that the Japanese could surely never have afforded. The loss of India would have been a tremendous blow to the Allies.

Japan's campaign against Burma opened with a ferocious attack on Rangoon on December 23, 1941. The only RAF units available for defence were Buffalos of 67 Squadron which had arrived at Rangoon from Malaya in October, and the Blenheim I and IV bombers of No 60 Squadron which also served as a communications and light transport unit. Reinforcements to stem the invasion were urgently needed. This came in the form of Blenheim IVs of 113 Squadron followed a few weeks later by No 45's Blenheims. Both units now occupied Magwe Airport.

No 113 Squadron reached Rangoon on January 7. Next day it despatched seven Blenheim IVs including VA-C:Z9820, and two crews flying aircraft of 60 Squadron including MU-K:Z7630; target Bangkok Airport. All the aircraft wore Dark Green/Dark Earth/Sky camouflage; usual in this area where the later production Blenheims were in use.

The Japanese advanced slowly into Burma and 45 Squadron mounted a raid on Mingaladon which brought a rapid reprisal. Some 230 bombers raided Magwe—and only six Blenheims were left. By March 1942 the bomber force was all but wiped out. In any case, the small bomber force could not hope to delay the invaders in a country where jungle gave cover, and mountains made flying hazardous. Added to this there was a massive drift of Burmese refugees northwards.

No 11 Squadron had moved to Colombo, Ceylon, in March 1942 and stayed until January 1943, placed there in case the enemy attempted a landing, or positioned a naval force to attack Trincomalee. It was not long before the anticipated attacks developed and 11 Squadron's Blenheims went into action against shipping, losing five aircraft.

The conquest of Burma, digestion of Malaya and other gains soon occupied the enemy's resources. Then came the summer rains, halting operations. For the Japanese it was a time of consolidation and preparation for an invasion of India. For the British the respite was a relief, allowing reinforcement aircraft in to the theatre of operations to support any army offensives. The Far East was, of course, an essentially American area of operations and one decision was to use, where possible, American-built aircraft in RAF squadrons. The flow of American aircraft built up, but still the quality of many left much to be desired, especially as there was a spares problem too.

The Consolidated Liberator had found no niche in RAF bomber operations over northern Europe, but its long range was utilised by Coastal Command. This aspect was a great attraction and could clearly be put to good use in the Far East where distances are so vast. Therefore a quantity of Liberator IIs some with, and some without, dorsal turrets were routed to India via the Middle East in March 1942. They arrived at a time when there was a desperate need for heavy bombers and so were held in Egypt and Palestine whilst the situation in the Far East sorted itself out. Part of 159 Squadron arrived in India to await them in May 1942, moving to Salbani in September and to Digri in October, where it stayed until March 1944. The first few Liberators arrived in India in July 1942, including AL537 in Dark Green/Dark Earth/Night camouflage. Medium grey individual letters are said to have been carried, and by August AL531, AL540, AL517, AL582, AL603 and AL579 are believed to have been with the squadron. The arrival of the Liberators posed a problem for few spares were available for these relatively sophisticated aircraft, and this prevented operations until near the end of the year, by which time AL520, AL526 and AL531 were in use.

In 1940 the Royal Air Force was somewhat reluctantly attracted to the idea of a fast dive-bomber, for the success of the Stuka as an army support weapon had been much in evidence. There was a clamour from ill-informed politicians in Parliament for a dive-bomber; as if one could be pulled out of a hat. The Hawker Henley might have, indeed should have, been available,

Continued on page 226

AIRFIX magazine

The Firebrand

BLACKBURN'S RUGGED TORPEDO BOMBER MAKES AN ATTRACTIVE CONVERSION SUBJECT FROM EXISTING KITS

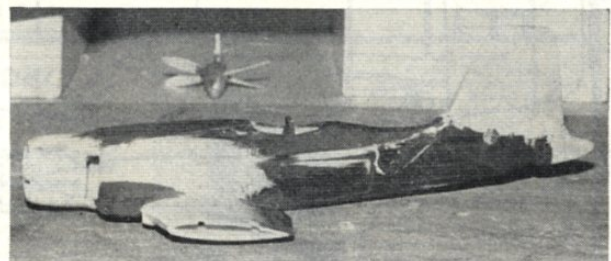
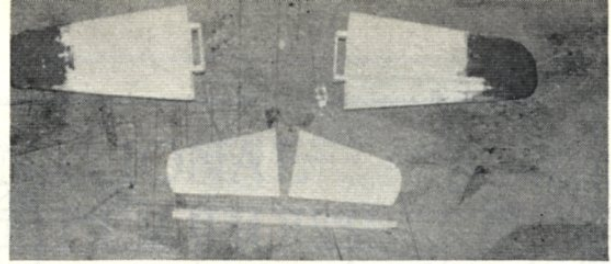
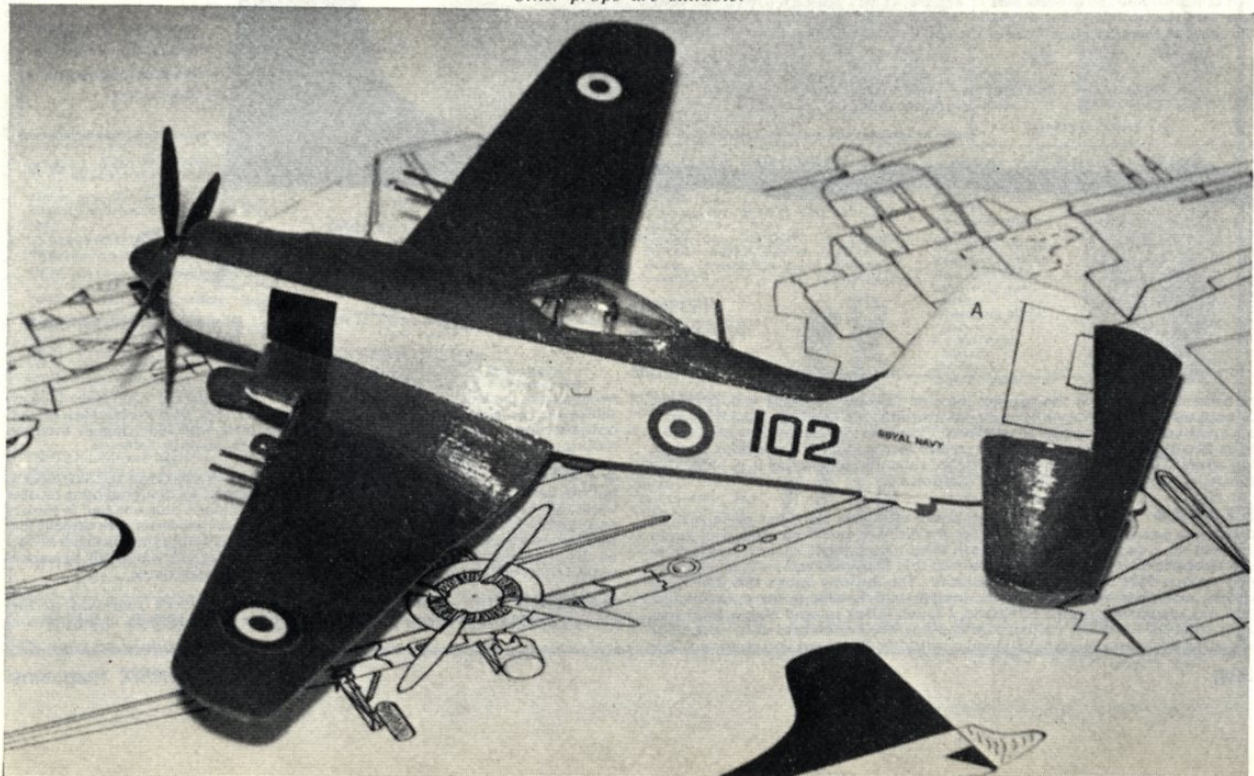
By Bryan Philpott

DESIGNED to specification N.11/40 the Blackburn type B.37, Firebrand was originally conceived as a short-range ship-board interceptor and underwent several design changes before it eventually went into service with the Fleet Air Arm. The prototype flew with a liquid-cooled Sabre 111 engine in February 1942 and was followed in July of the same year with a fully-equipped second prototype which underwent deck landing trials on board HMS *Illustrious*.

Long before this, however, the Admiralty had decided that the aircraft did not offer a great enough improvement over the Seafire so development as an interceptor was abandoned in favour of a torpedo-strike fighter, a role to which the Firebrand—with its high load carry capability—was ideally suited. As Sabre engines were needed for Typhoon production, the air-cooled 18 cylinder Centaurus engine was substituted and a third prototype constructed with this power-plant.

By the time the principal production model, the Firebrand 4, subject of this conversion, was ready for service, the second world war was over. But this aircraft, now powered by a Centaurus VII or XI, went into service in 1947, going to sea with 810 and 813 Squadrons aboard HMS *Implacable*, and served the Fleet well until replaced by the Wyvern. This conversion, like the Fulmar (*Airfix Magazine*, August 1969), enables naval aircraft enthusiasts to add another important and interesting model to their collections.

A fine view of the completed model which makes a good addition to a collection of Fleet Air Arm models. The serial was still to be added when the model was pictured. Propeller in this case comes from a Tempest V which had been converted to a Mk II, but other props are suitable.

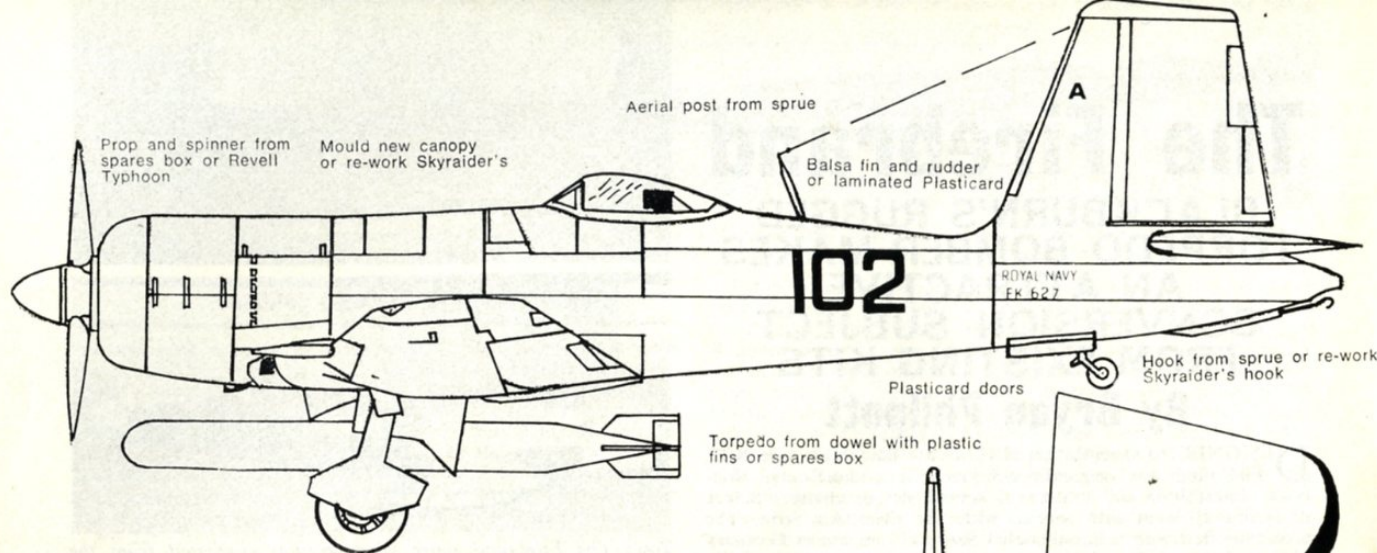


Top: The Firebrand outer wing sections converted from the Skyraider parts, showing clearly the new tips which have here been undercoated after sanding and cementing. The Skyraider tailplane is shown with the new trailing edge extension strip. Above: Fuselage nearing completion showing new tail and wing root inakes.

Although not difficult, the conversion is one that needs some experience and makes an ideal subject for those modellers who have successfully completed something a little simpler and now want a model that will tax their skills just a shade more. It would be possible to use some parts from other kits; for example, the engine cowlings from the Frog Sea Fury, but I tried to use the Skyraider parts as much as possible to prevent too much cannibalisation, and also to keep costs within the reach of younger modellers anxious to try a harder conversion but not wishing to risk too much capital outlay.

STAGE 1 Trace the Firebrand fuselage profile onto some light cardboard such as a post card, then cut this out and use it to mark the new top fuselage line on the Skyraider fuselage parts 6 and 9. Remove the unwanted plastic with either a sharp knife or a fret-saw with a new blade. Clean up the cut lines, then cement

Continued on next page



the halves together inserting part 8, which helps as a spacer as well as providing a key for the filler that will be needed. Add the dive brakes parts 33, 34 and 35 which should obviously be cemented in the closed positions. When thoroughly dry fill the gaps on the fuselage top with sprue, then Brummer stopper, remembering to leave the new cockpit area open! When the stopper has set hard sand this into shape, but leave the final finishing until the next stage.

STAGE 2 Cut a new fin and rudder from balsa wood, or laminate several pieces of Plasticard and cement this into place, together with the new tail cone

which should be made from balsa and keyed to the fuselage as shown on the drawing. Make sure that the fin and rudder are vertical and when firmly set, fair the leading edge into the top decking with stopper. When satisfied that everything is set and true, complete the final sanding until a smooth hard surface is obtained. If using balsa for the fin and tail cone this must be treated with grain-filler or the well-known talc and clear dope formula.

STAGE 3 The Skyraider engine—which will be mostly hidden by the spinner—is cemented into the cowl part 16 and the whole lot is then fixed to the fuselage with the two slots that normally locate on part 10 (which is discarded) at the sides, as these form the basis of the outlets on the Firebrand cowl. It will

Profile of original Skyraider fuselage. Remove shaded portion and build up with Brummer Stopper (see text).

Remainder of drawing on page 209, other side of advertising section



be necessary to contour the cowl into the fuselage in places and in others, remove part of the fuselage to mate the cowl. But this will quickly become apparent and should present no problems. Complete the fuselage by adding a seat from Plasticard or re-working the Skyraider seat, add an arrestor hook and the tail wheel. The latter can be the Skyraider's slightly modified as it is hidden by the doors, which are fashioned from Plasticard.

STAGE 4 Cement the Skyraider centre-section in place but make sure no dihedral is present. Fill the gaps between the fuselage and wing roots with putty, and add the root intakes with two small balsa blocks which should be shaped as shown on the plan. Fill the wheel wells with thin Plasticard and putty and add the new trailing edge from 30 thou Plasticard. The drawing shows this part quite clearly, and when added it gives the straight trailing edge to the centre-section that was so apparent on the Firebrand. I found it best to sand quite a large part away from the Skyraider trailing edge and tips where Plasticard parts were to be added, as this gave a much better area to which the Plasticard was cemented, thus

avoiding any tendency of this material to 'curl'. Wing tips are made and added as shown on the plan and the outboard panels are then firmly cemented to the centre-section. When dry fill the wing-folding joints with filler, fair in the new trailing edges with putty and sand the whole assembly smooth.

STAGE 5 The Firebrand tailplane was smaller in span than the Skyraider's but the latter is easily adapted using the same method as that employed on the wings, of adding a new Plasticard trailing edge. Although only one half is shown on the plan, it is best to make the new trailing edge in one strip, then cement the reshaped Skyraider 'planes' to it leaving a space in the centre the thickness of the fin. By doing this it will be found that the tailplane assembly can easily be mated to the fin and rudder, and any gaps left filled with stopper or putty.

STAGE 6 The undercarriage legs are the Skyraider's shortened to the correct length, but before fixing these in place, cut the wheel wells in the position

Continued on page 209

AIRFIX magazine



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HINCHLIFFE MODELS

ARTILLERY AND WARGAME FIGURES

BRITISH NAPOLEONIC CAVALRY (BNC) RIDERS

- BNC 1 Heavy Dragoon, charging
- BNC 3 Heavy Dragoon, officer, charging
- BNC 4 Heavy Dragoon, trumpeter
- BNC 6 Royal Scots Greys Trooper, at rest sword over shoulder
- BNC 8 Royal Scots Greys Officer, at rest, pointing
- BNC 9 Royal Scots Greys Trumpeter, at rest
- BNC 11 Household Cavalry Trooper, at rest, sword over shoulder
- BNC 13 Household Cavalry Officer, at rest, sword over shoulder
- BNC 14 Household Cavalry Trumpeter, at rest, trumpet against thigh

FRENCH NAPOLEONIC CAVALRY (FNC) RIDERS

- FNC 1 Line Dragoon, at rest position
- FNC 3 Line Dragoon officer, pointing
- FNC 4 Line Dragoon trumpeter, at rest
- FNC 6 Cuirassier Trooper, charging, leaning forward
- FNC 8 Cuirassier Officer, charging
- FNC 9 Cuirassier Trumpeter, charging, slung trumpet
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- MP/22 Cavalryman (tricorne) with drawn sabre and horse
- MP/23 Officer (tricorne) with baton and horse
- MP/24 Horse Grenadier with carbine and horse

- MP/19 Officer (Tricorne) with spontoon
- MP/20 Militia Officer with stick, Ensign carrying colour
- MP/21 Cavalryman (tricorne) with carbine and horse
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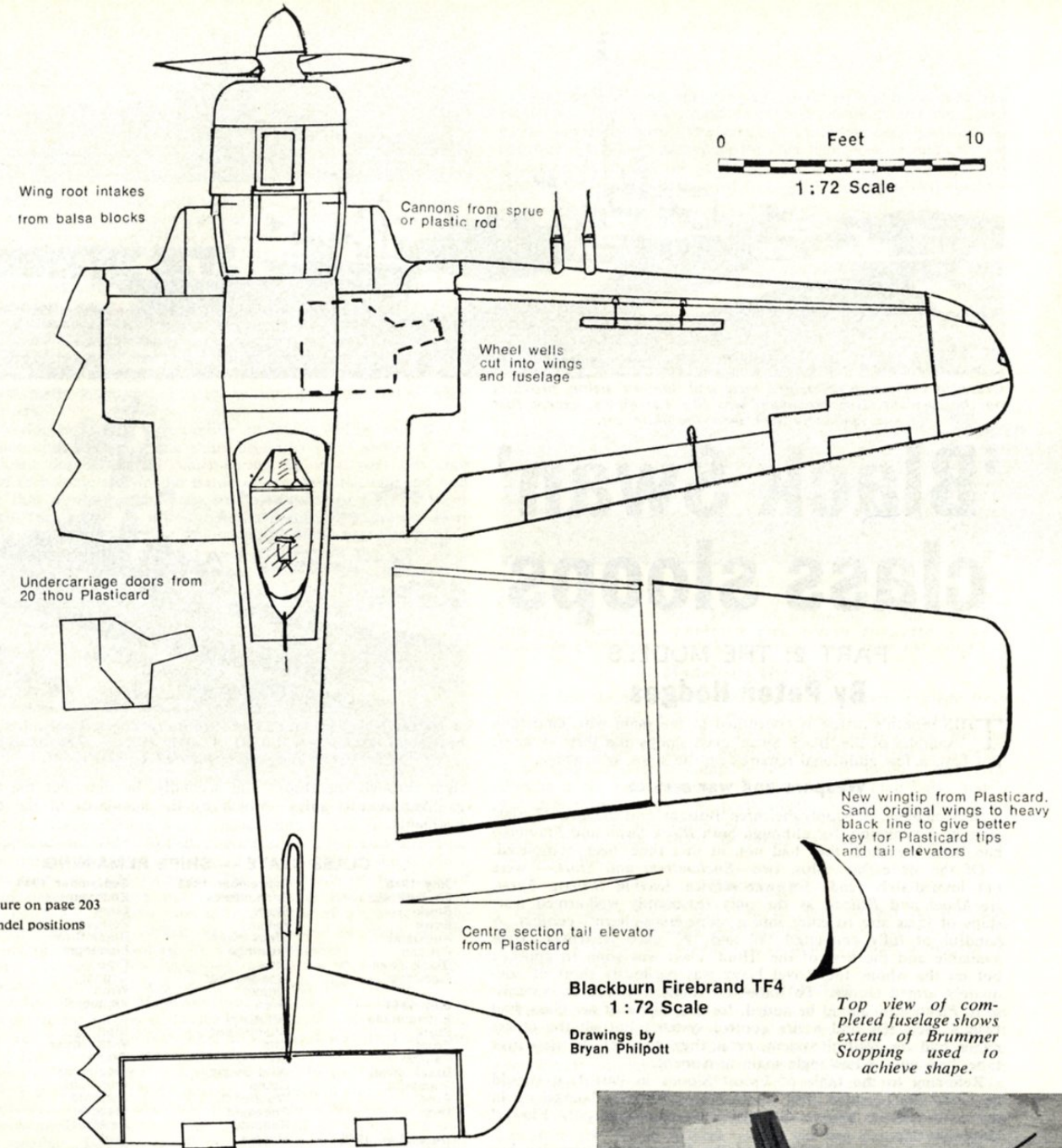
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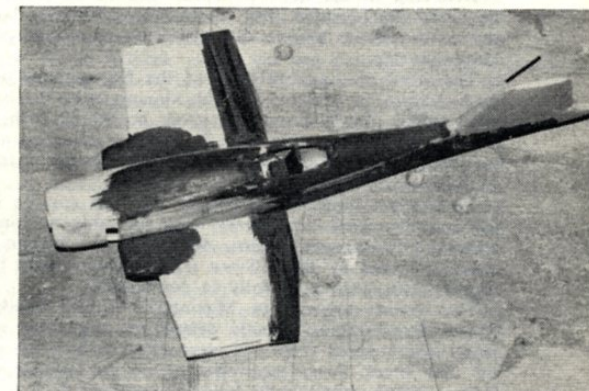
shown on the plan. Once the legs are firmly set add the doors from 20 thou Plasticard and fashion the torpedo mounting from scrap plastic. The torpedo itself can come from the spares box or can be made with a piece of dowling and Plasticard. Wing cannons are made from stretched sprue as is the aerial post on the fuselage which is angled forwards.

The propeller came from a Revell Tempest V and was cemented in place whilst the canopy was moulded, but the Skyraider's, with a little work, can be adapted. Scratch marks in this operation should be removed with toothpaste.

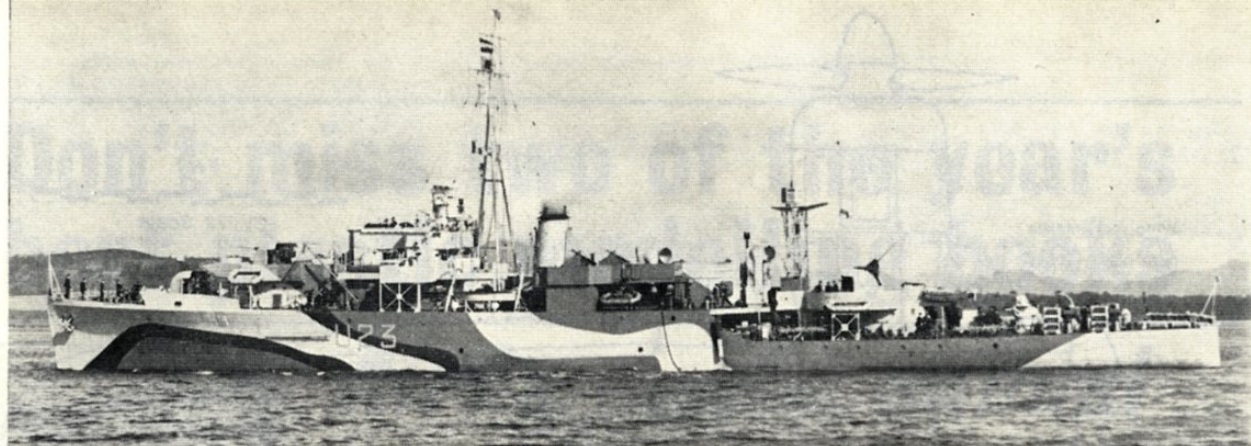
The Firebrand can be finished in the immediate post-war Fleet Air Arm camouflage but for my model I choose the Sky and dark sea grey of the 'fifties. Roundels came from a Frog Wyvern whilst the serial, 'Royal Navy' and fuselage codes were from a Dri-Dec sheet.

The writer would like to thank John Hutchings for his help in supplying details for this conversion.

December 1971



Top view of completed fuselage shows extent of Brummer Stopping used to achieve shape.



Crane in 1943, with her tripod mast and 'lantern' pylon, provides another variant. Her armament was like Lapwing's, except that she had only one twin Oerlikon aft.

'Black Swan' class sloops

PART 2: THE MODELS

By Peter Hodges

THIS month's article is concerned in the main with modelling examples of the 'Black Swan' class sloops and their variants. But first, a few additional remarks on the ships as a whole.

Weapons and war service

In September 1939, only the three 'Bitterns' and the three 'Egrets' were in commission, for although both *Black Swan* and *Flamingo* had been launched, they had not, at that time, been completed.

Of the six earlier ships, two—*Enchantress* and *Stork*—were not immediately ready for war service, leaving *Bittern*, *Egret*, *Auckland* and *Pelican* as the only reasonably well-armed warships of their size to enter into a ship-versus-aircraft conflict. A handful of fully converted 'V' and 'W' class destroyers were available and the first of the 'Hunt' class was soon to appear; but on the whole, the Royal Navy was perilously short of adequately armed escorts. To these few modern sloops in commission, *Fleetwood* should be added, for she, alone of her class, had twin 4 inch HA and a fire control system; but all the others either had no control system, or if they were of the destroyer type, had only a low-angle main armament.

Referring to the table of Escort Sloops in Part I, it should be noted that even in 1941, *Stork*, as leader, was backed up in her convoy duties by one 'Grimsby' class sloop and only 'Flower' class corvettes.

The story of the naval side of the Norwegian Campaign has been admirably told by Donald Macintyre in his book *Narvik* (Pan British Battle series) and needs no repetition here. What is of particular interest, however, is that in reading his account, one sees that almost all the new sloops were committed to the waters of Norway.

Enchantress, with her low-angle 4.7 inch can be immediately discounted: *Stork* and *Egret* were probably refitting; but the names of *Fleetwood*, *Bittern*, *Auckland*, and *Pelican* appear frequently, joined by *Black Swan* and *Flamingo*, who by this time (April 1940) were both fully in commission.

Two points arise from Macintyre's work. Firstly, that the Stuka dive-bombers quickly seized on the weak spot of the ships and attacked from the stern (*Bittern* had her stern blown off and *Black Swan* received a direct hit on her quarterdeck from a bomb that luckily failed to explode until it had passed



A far cry from her days as an Admiralty Yacht, *Enchantress* rolls heavily as she escorts a 1941 Atlantic convoy. The after gun is a 3 inch HA, supplemented by Oerlikons.

right through the ship); and secondly, he describes the sloops as 'Anti-aircraft ships'—which by the standards of the day is justifiable.

CLASS STATE — SHIPS REMAINING

July 1940	September 1943	September 1944
Enchantress	Enchantress	Enchantress
Stork	Stork	Stork
Egret	Pelican	Pelican
Auckland	Black Swan	Black Swan
Pelican	Flamingo	Flamingo
Black Swan	Erne	Erne
Flamingo	Woodpecker	Cygnat
	Cygnat	Wren
	Wren	Whimbrel
	Whimbrel	Kite
	Chanticleer	Starling
	Kite	Wild Goose
	Starling	Crane
	Wild Goose	Woodcock
	Crane	Pheasant
	Woodcock	Redpole
	Pheasant	Magpie
	Redpole	Amethyst
	Magpie	Hart
		Lapwing
		Lark
		Hind
		Mermaid
		Peacock

Ships lost after Sept. 1944

Kite
Lark (later salvaged by Russia)
Lapwing

Ships completed too late for war service in Europe

Alacrity
Opossum
Modeste
Nereide
Actaeon
Snipe
Sparrow



In 1952, well-equipped with weaponry and Radars, *Modeste* typified the final development of the 'Black Swans'.

A more difficult position than that in which the embattled ships found themselves can hardly be imagined. Hemmed in by the steep and lofty mountains fringing the fiords, and with little sea-room in which to manoeuvre, they fought off successive waves of dive-bombers, whose approach they could only hear. If their fire control system was second-best, at least they demonstrated the value of the twin 4 inch HA mounting. No doubt, too, the lessons learned in the ill-fated Norwegian encounter were at least partly instrumental in the re-arming of the 'Tribal' class destroyers.

Referring to one of this month's tables, it will be seen that it was not until 1943 that the ships began to enter service in any significant numbers: and remembering the vital part this class played in helping to win the Battle of the Atlantic, one can only regret that we did not start the war with thirty or forty of them.

From the launch of *Woodpecker* onwards, they moved down the slipways on a more or less monthly basis, and clearly took whatever close-range weapons were available at the time. It is



this as much as anything that makes the group so interesting to model, for the variations were considerable as can be seen from the appropriate table. Added interest lies in the very extensive depth-charge armament of some of the 'Modified' ships, which had as many as eight throwers. The extra units on the forward part of the quarterdeck were angled sharply towards the stern and presumably could be used instead of the after quartet in the standard '10-Pattern' attack or in addition to them in the 'smothering' tactics evolved by Captain Walker.

Some, too, had a 'Slit Hedgehog' mortar on 'B' gundeck. This functioned in the same way as the 'Hedgehog' described in 'River Class Frigates' (*Airfix Magazine* June 1971), but was divided into two separate mountings of twelve spigots each, offset to port and starboard of the centre line. This arrangement was used on ships where there was no space (because of the presence of gun-mountings) for a normal 24-spigot weapon. In the 'Black Swans' this A/S device was sited between 'B' gun and the bridge. The controls were fitted to one 'half' to which the other was connected by mechanical linkages so that both rolled in stabilised movement together. To protect 'B' mounting from the effects of the mortar when it fired, folding wire-mesh screens were raised between the 4 inch and the 'Hedgehog'. The gundeck then became somewhat restricted in space, for there were ready use lockers for both the gun and the mortar as well as the crew shelter. The latter could hardly have held the crews of both at the same time but perhaps the gun's crew stood down when the mortar was in action, with only 'A' gun closed up to take on the U-boat if she was forced to the surface.

Photographs

This month, the photographs show some of the ships discussed and also typical camouflage schemes. *Crane*'s hull is white, mid- and very dark grey, with light grey pendant numbers. Her decks were mid-grey. *Lark* has the simplified scheme—off-white with a lightish grey band at quarterdeck level. Her pendant number is

'counterchanged' and she has very dark grey gun curtains and blast bags. Her decks would be of approximately the same tone as the lower-hull grey. The same off-white has been used on the quarters of *Cygnat*, darkening through light grey to mid-grey for the largest area and for her decks. Notice the pure-white undersides of the whaler—painted thus to neutralise deep cast shadow.



Cygnat features in the variants table. Here, the starboard quad pom-pom is clearly visible abaft the funnel. Notice her tripod foremast and 'crowsnest'. Left: Most famous of the class was *Amethyst*, here seen returning shell-scarred from the Yangtze action in 1949. Note the 'plugged' shell holes near the waterline.

Modelling the ships

Like the 'River' class frigates, these sloops can be made from a *Hotspur* kit hull, with the more difficult fittings—boats, davits, 4 inch mountings, etc, taken from the spare parts box. But for those who prefer to make waterline models (and there is much to be said for this), a complete hull can be made from wood. Obeche is the best, because it is more robust than balsa and is less prone to splinter on sharp edges. A useful scheme is to slightly undercut the depth, so as to be able to cement a plastic deck overlay, upon which the fitting can then be assembled in the usual way.

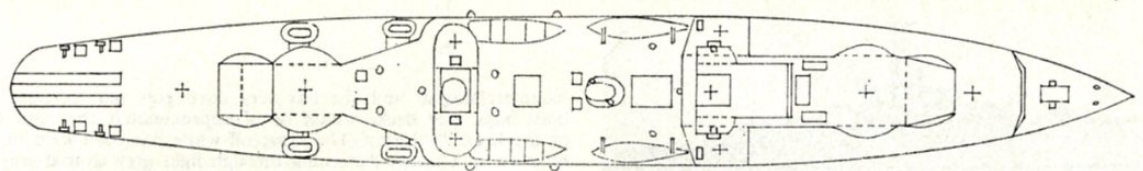
Drawings

Pelican, *Black Swan*, and *Alacrity* were chosen because they are examples of the three main groups but by reference to the Equipment Table, the reader will be able to model a number of Modified variants.

'Egret' class drawing

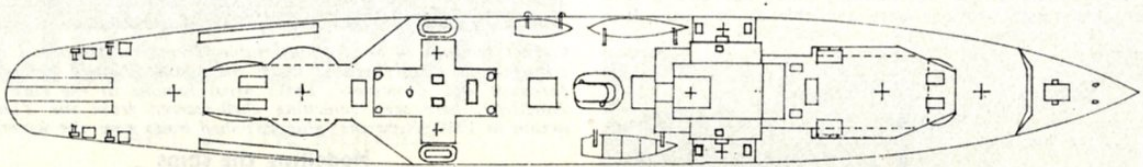
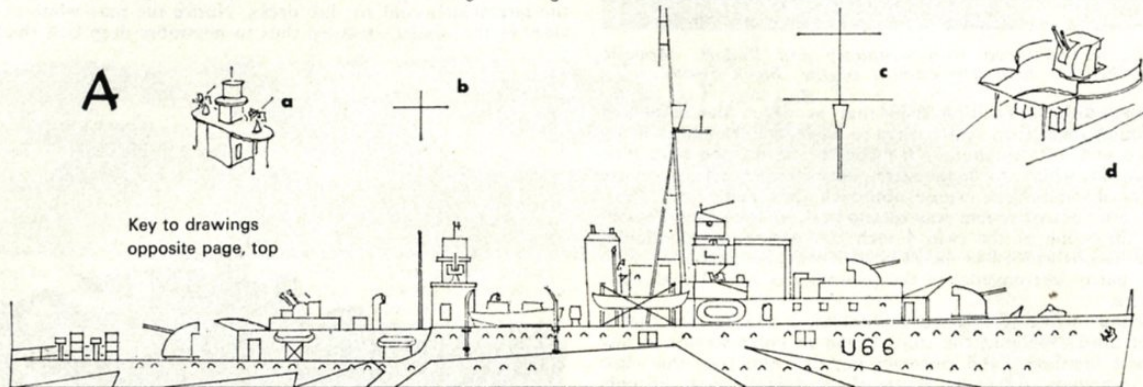
This shows the appearance of *Pelican* in about 1941-42 as an Atlantic escort, with 'X' 4 inch replaced by a quad pom-pom. At this time she had single Oerlikons on the bridge wings and a second pair on high platforms abreast the Radar 'lantern'. Notice her tripod foremast, crossed by two yards, and particularly that the position of her superstructure units differed slightly from those of the later classes, which were some six feet longer in overall length. As an Atlantic escort, she was painted white with very pale blue-green panels, indicated by the enclosed areas on the hull. Upper and quarter decks were natural wood and all other upward-facing surfaces light grey, including the fo'c'sle forward of the breakwater. The 'Egrets' had large door-type ports in the superstructure below 'B' gun, whose blast shield projected forward—'coal shovel' fashion—with heavy stanchions supporting it. 'A' gun's ready use lockers were positioned under the long overhang. The funnel had the usual twin syrens and two waste steam pipes, set roughly diametrically opposite each other, the forward boiler's to starboard and the after to port. The galley funnel and a diesel exhaust projected through the funnel proper; and a 'Charlie Noble'—from the officer's galley—rose at the break of the fo'c'sle deck. *Pelican* was well equipped with boats—two whalers, a 25 ft motor cutter, a 25-ft Fast Motor Boat, and a 14 ft dinghy under the port seaboard.

Continued on page 213

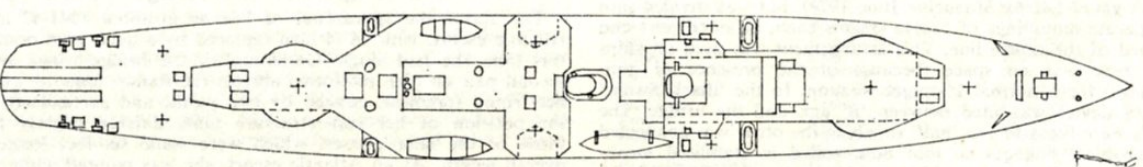
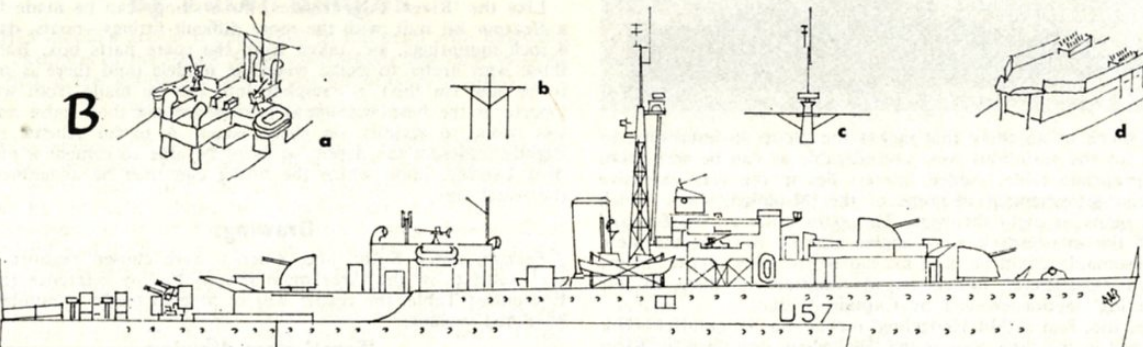


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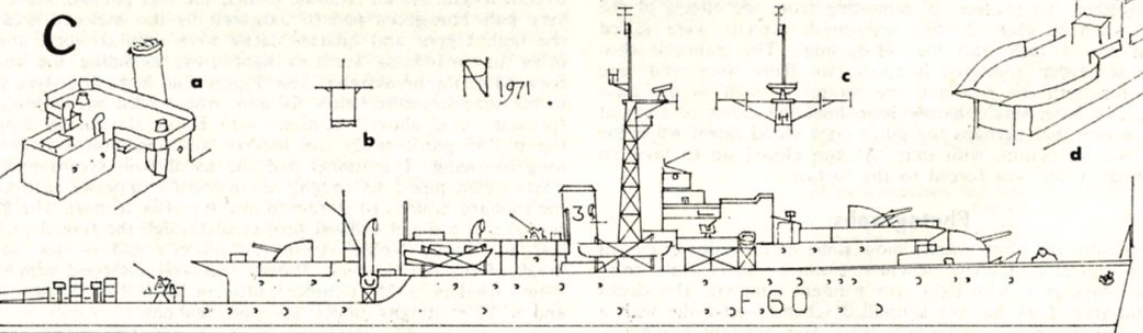
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B



C



KEY TO 1:600 SCALE DRAWING: (A) Plan and elevation of Pelican: (a) Oerlikon gun deck, (b) Main yard, (c) Fore yard, (d) 'B' gun deck. (B) Plan and elevation of Black Swan: (a) Oerlikon gun deck, (b) Mainmast and 'goalpost' frame, (c) Fore yard, (d) 'B' gun deck, with squared-off 'bandstand', for Split Hedgehog mortars. (C) Plan and elevation of Alacrity: (a) Midship close range gun deck, (b) 'Goalpost' frame, (c) Fore yard, (d) 'B' gun deck for non-Hedgehog fitted ships; otherwise as for Black Swan

'Black Swan' class drawing

Black Swan herself is shown, as she appeared c 1944, with the quarterdeck pom-pom, twin Oerlikons abreast the bridge and sided singles further aft. These were sited on a deck structure similar to that in Pelican, but it was extended between the two sets of ventilators—a sort of fore-and-aft flying bridge, with canvas wind dodgers laced to its guard rails. The bridge construction should be noted, especially the long outward extension for the signal lamps. This ship had a split Hedgehog and extended canvas side-screens on her hand-worked 4 inch mountings. Just below the whaler, there were double-door style storing hatches on each side, but the forward pair—as seen in Pelican—were omitted. Notice that she had a peacetime outfit of scuttles in the ship's side. Her topmast has a slim TBS aerial and a Radar 291; lower down, she had a small 'cheese'—probably Radar 276—with its own aerial wave guide trunk. The hull had the late-war simplified camouflage scheme: overall white with a very pale blue panel. Like Pelican, she had wooden decks and light grey horizontal surfaces.

Modified 'Black Swan' class drawing

This is Alacrity in 1952, with single Oerlikons abreast the bridge, two single hand-worked Bofors abreast the funnel and a further pair on the quarterdeck. She had no split Hedgehog, but a rather heavier lattice mast than Black Swan, carrying the type



Pelican, off Portsmouth in 1954, re-armed with single Bofors, but retaining her tripod foremast.

293 aerial cheese on a projecting platform. Prior to 1950, her appearance was similar except that she then had twin Oerlikons abaft the funnel, no close-range weapons on the quarterdeck and no parbuckle stowages for her four depthcharge throwers. The midship gun deck was designed to carry quite heavy twin Bofors or quad pom-poms and small upper deck compartments were built immediately below it to support their weight. The port side was used as the joiner's workshop and the starboard side became the Chief Bosun's mate's 'caboose'. A scrap sketch shows the general arrangements, including the ventilator hatch underneath the gun deck. Alacrity's colour scheme at this time was overall light grey, with green decks throughout. Her boats were black above the waterline and white below, except for the 14 ft sailing dinghy which was varnished. This was stowed beneath the whaler on the starboard side which, like the 25 ft motor cutter, had screw-jack davits. Balancing the cutter, there was a 16 ft motor dinghy in radial davits on the port side. Some ships of this group had a second whaler on the port side corresponding to the starboard boat, but this—and its davits—were omitted in Alacrity.

1945 onwards

When the war in Europe ended, the ships were deployed to the Far East, and in August 1945, with Enchantress as 'Command and HQ Ship, Escorts', seventeen of them were on the strength



Scotts of Greenock built Lark and Lapwing, which were virtually identical. Lark has a lattice foremast and an all-Oerlikon close range armament in this 1945 photo.

of the British Pacific Fleet, leaving only Pelican, Wild Goose, Magpie, Mermaid and Peacock elsewhere.

At the same time, the six RIN units were in the East Indies Fleet, having supported the land forces advancing against the Japanese in Burma and Malaya.

After the war, the British Pacific Fleet was dispersed and most departed for service on other stations. Enchantress was quick to go. She was sold into commercial service in 1947, before being scrapped five years later. Starling and Redpole were disarmed, to become tenders to the Navigation School at Portsmouth, as were Jumna and Sutlej before their conversion to RIN survey ships.

A few 'Black Swans' remained on the station—including the name-ship—and did not come home until the early 1950s, having by then seen further war service off Korea. Amethyst, in fact, returned to Devonport in 1949 after her escape from the Yangtze, but went back to the 'Far Flung' after her action damage had been repaired.

Pelican led Magpie, Mermaid and Peacock in the Mediterranean for some years, and was involved in the Haifa patrols. Later, the 2nd Flotilla passed through the Suez Canal for Aqaba patrol duties. When she was in the Red Sea, the double storing hatches in her side provided much sought-after extra ventilation. When the 2nd Flotilla returned to Home waters in 1952, Pelican went to her base port, Chatham, for refit. There, she exchanged her Oerlikon mountings for single Bofors, but only lasted one more commission before being sold for scrap in 1958.

Wren and Wild Goose both served in the Persian Gulf and, like Flamingo, had much of their armament suppressed—the latter pair then receiving extra upper deck accommodation superstructure reminiscent of Enchantress in her early days.

The last ship actively employed in the RN was Crane, who finally returned to Portsmouth in 1961, where she reduced to reserve before going to the breakers. But perhaps the most poignant memories were invoked when Starling paid off for the last time in November 1959. This occasion was attended by the Commander-in-Chief, Portsmouth, who, with several ex-commanding officers of the famous 2nd Support Group, paid tribute to the memory of the late Captain F. J. 'Johnny' Walker, CB, DSO and three Bars, RN, and his splendid 'Black Swans'.

BLACK SWAN GROUP			CLOSE RANGE WEAPON VARIANTS		
Ship	Bridge (sided)	Abaft funnel (sided)	Break of Fo'c'sle (sided)	Quarter- deck (sided or centre- line)	Remarks
*Cygnets '43	2xSO	2xQP7	—	—	8xDC throwers
Redpole '43	2xSO	2xTB4	—	1xTO5	Disarmed post war
*Whimbrel '43	2xSO	2xTB4	—	2xTO5	8xDC throwers
Amethyst '43	2xSO	2xSO	—	2xTO5	2xTB4 later
Lapwing '44	2xSO	2xTO5	—	2xTO5	
Flamingo '45	2xSO	—	2xSO	1xQP7	QP7 later removed
Modeste '46	2xSB3	2xTB(US)	—	2xSB3	See also below
*Opus '47	2xSO	2xTB(US)	—	—	Later as Modeste '52
Cauvery '48	2xSB3	2xSB3	—	—	
*Snipe '48	2xSB7	2xTB5	—	—	
Pheasant '49	2xSO	2xTO5	—	—	Cygnets similar, '53
*Alacrity '50	2xSO	2xSB3	—	2xSB3	
Black Swan '51	2xTO5	—	2xSO	1xQP7	
Modeste '52	2xSB7	2xTB5	—	2xSB7	
*Pelican 1939	—	—	1xQV3	'X' gun- deck (twin 4 inch)	
1942	2xSO	—	2xSO	1xQP7	
1950	2xSO	—	2xTO5	1xQP7	
1954	2xSB3	—	2xSB3	1xQP7	

Notes:

QP7 Quad 2 pdr pom-pom Mk 7(P) (powered)
SO Single 20 mm Oerlikon (hand)
TO5 Twin 20 mm Oerlikon Mk 5 (powered)
SB3 Single 40 mm Bofors Mk 3 (hand)
TB4 Twin 40 mm Bofors (Hazemeyer) Mk 4 (powered auto-follow)
TB5 Twin 40 mm Bofors RP50 Mk 5 (RPC)
TB7 Single 40 mm Bofors Mk 7 (powered)
TB(US) Twin 40 mm Bofors (United States) (RPC)
QV3 Quad 0.5 inch Vickers machine gun Mk 3
TB5 and TB(US) had associated light-weight directors abaft and inboard of their 'slave' gunmountings.
All with Hedgehog except ships marked *

Simple narrow gauge locomotive

A MODEL BASED ON A TRIANG 'TT' JINTY AND AIRFIX PARTS

By Giles Barnabe

TO start the story at the end, the name 'Douglas' was chosen as being suitable for a loco that might have run on the Isle of Man, but which is at present at use on the Midd Valley Railway—my own freelance 00n3 layout. The basis of this conversion was the Triang TT Jinty, which needed surprisingly few modifications to resemble a Beyer Peacock loco, though admittedly the characteristic type modelled usually had a 2-4-0 wheel arrangement.

Starting with the chassis, the front end needed cutting down as the prototype was not fitted with a flat front footplate. The front bufferbeam casting was cut away either side of the coupling and a further 1 mm filed away from the front face (this is so that when a new bufferbeam is fitted, the coupling hook is not fouled). Apart from this the only other chassis modification was to remove the rear buffers and plug the resulting holes, though readers may like to provide a four-coupled wheel arrangement. The changes to the body moulding were more drastic. The whole of the front of the footplate was cut away, leaving only the splashes and the area in front of the smokebox bordered by the two small diagonal braces. The cab and the coal rails were removed and the rear of the bunker was filed flat. Last to go were the boiler fittings, though in filing the stumps down to boiler level care was taken to preserve such details as rivets and boiler bands.

An Airfix 'Pug' kit provided the motion. The cylinders were mounted on their blocks, which had been sawn off their chassis sides, and were offered up

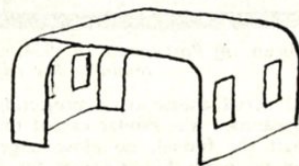
to the new body and mechanism. An angle of about 30 degrees was found suitable to enable the cylinders to be Araldited to the sides of the smokebox, though some trimming was necessary to get them to fit round the splashes. Although I did not think of it until too late (after the Araldite was dry!), the cylinder blocks should also have been reduced in depth, as the slide bars should not project beyond the edge of the footplate. The footplate valance can be cut away from below the tanks as far back as the cab steps and this will allow the slidebars to be attached at their outer ends below the tanks. The Airfix piston rods (part 5A) were tapered, using Swiss files, and fitted to the crosshead in the normal manner.

Mounted on the slidebars, trial and error showed where the pivot point would be on the Triang connecting rods—about 4 mm behind the fixing screw. An Airfix motion pin (No 0) was Araldited head down on to the con rods at this point and the piston rod slipped over it. The pin should be shortened so that while it retains the piston rod in place during running, the rod is readily removable to allow the body to be taken off for maintenance of the mechanism. If the motion binds (shown by either jerky movement of the loco or a loud clicking) it is a simple matter to re-position the pivot pin. Alternatively, the cross-head rod may be trimmed.

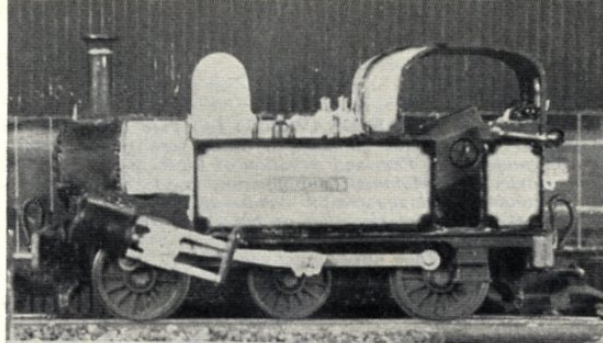
The front bufferbeam from the Airfix kit was used for the sake of its rivet detail, though the buffer shanks and the centre lamp-iron were removed. A former for the cab was sanded up from a block

of wood and after 30 thou Plastikard had been taped over it, it was immersed in alternate boiling and cold water to set the shape. The cab's dimensions were determined by making a card pattern. When the cab 'blank', an inverted U, had set, the square windows were cut out, first drilling the corners as a guide to stop the knife slipping. Small quadrant-shaped cab sides were made and the whole thing fitted on to the body. Boiler fittings were provided by a K's Terrier chimney, a 14XX dome and a Webb safety valve which was cut down to its boss on which were mounted two Ross 'pop' valves. Final details were added, including lamp-irons at the rear, a vacuum cylinder and copper piping on the rear cab sheet and train-pipes on each bufferbeam. A tin can for the loco's lamp oil supply was made from a 4 mm scale turned brass signal lamp which was given a handle from a tiny loop of paper. A sloping footplate from the tanks to the front of the smokebox was provided, these details all coming from photos of Beyer Peacock locos at work on the Ballymena and Larne Railway and the Isle of Man Railway, which brings us back to 'Douglas' and the start of this article.

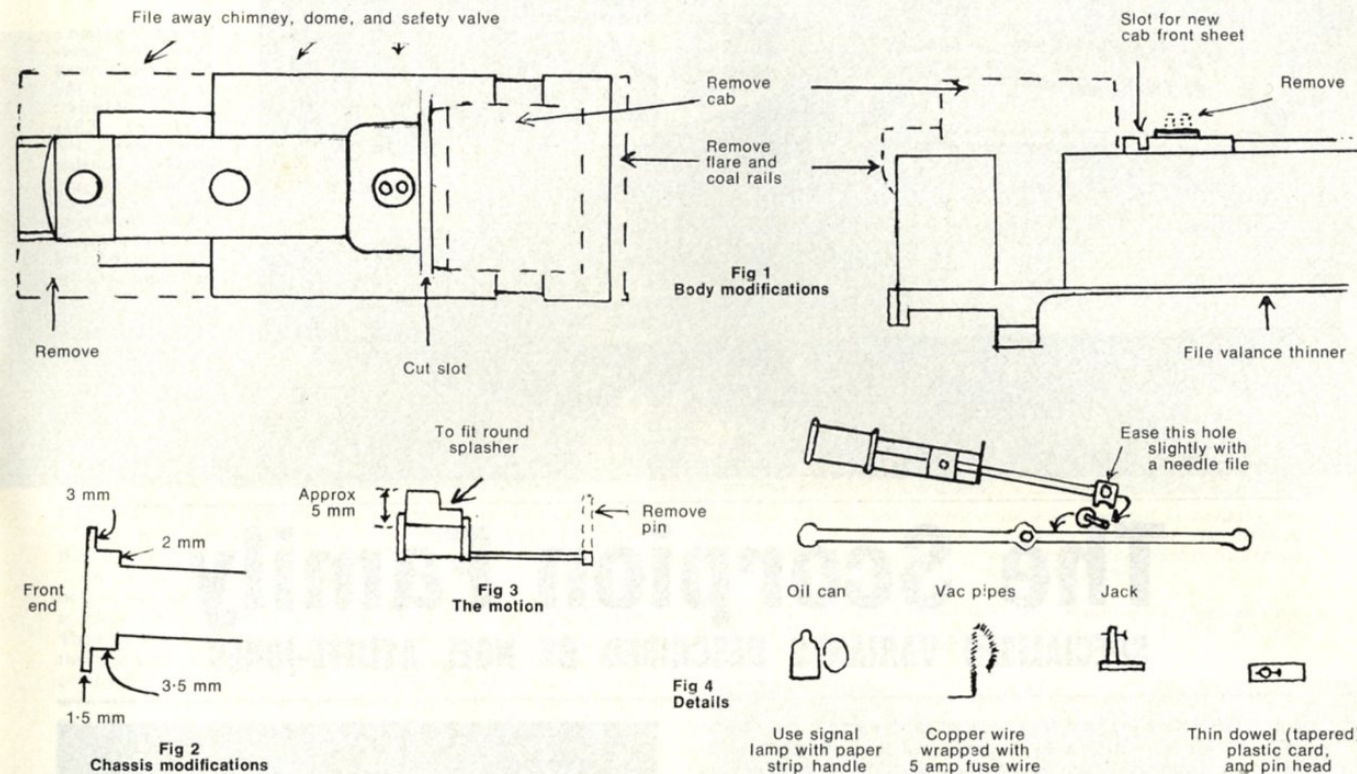
Fig 5 Cab



Cab bent up from sheet 52 x 25 mm; windows 6 x 5 mm



Above: Completed model, finished here in yellow ochre livery similar to LBSCR style; note vacuum pipes made from copper wire and wrapped with 5 amp fuse wire.



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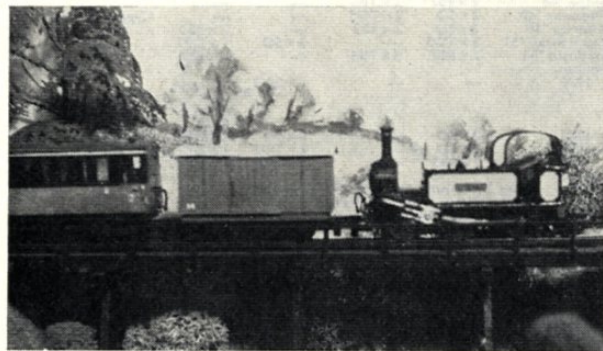
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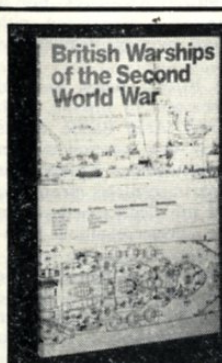
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The two views below show 'Douglas' at work on the author's 00n3 narrow gauge layout which is freelance but reminiscent of the Isle of Man Railways in style.



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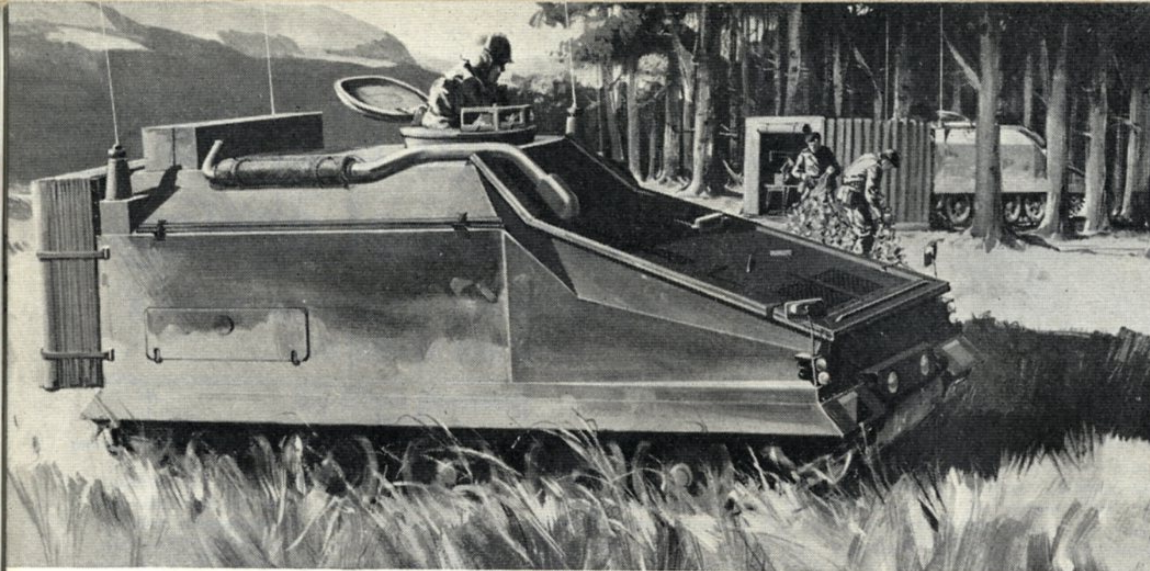
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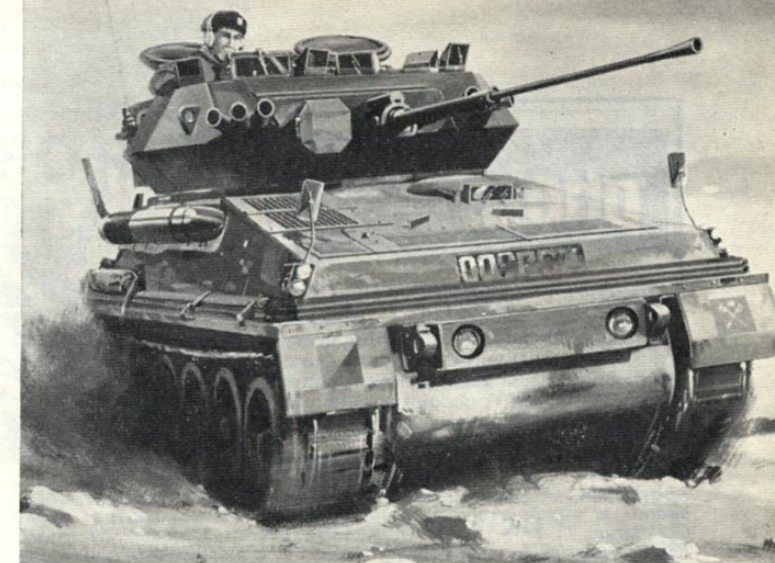
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(Block caps please)

(A12)



Left: Sultan: Note the penthouse tent stowed at the end of the hull. **Right: Striker:** This view shows the missile housing elevated to the firing position. The swimming screen is fitted to the top of the hull and not at waist level as on Scorpion. Access to the hull is by the large rear door.



Scimitar: The 30 mm Rarden cannon is mounted in virtually the same turret as in Scorpion. The long barrel of the cannon requires support to prevent droop, hence the thicker collar at the mantlet end of the barrel.

Samson: Is shown using the internally mounted winch to recover a Scorpion. Note the additional episcopes on the hull side for crew observation.



mobility are the same, giving a low ground pressure and a high power/weight ratio. The engine, transmission, suspension and tracks are identical and the hull material is the same aluminium alloy armour plate. Every vehicle carries a flotation screen to give a swimming capability, and the sprocket-driven propeller kit can be fitted to each type.

The special equipment installed on the vehicles can vary. Radiac and gas alarms are optional, but every vehicle has NBC equipment. Different radio systems can be installed according to the users' requirements. Items such as radar and navigation equipment are also optional extras.

The Scorpion Family

SPECIALISED VARIANTS DESCRIBED BY NOEL AYLIFFE-JONES

ALTHOUGH the vehicles described in this article are variants of Scorpion, it is really better to call them members of the CVR(T) family of which Scorpion is the first to be produced. In the initial studies for the new equipment it was intended to design one vehicle which could carry out three major roles—Reconnaissance, Fire Support and Anti-Tank. However, in order to meet the Strategic Mobility requirements the battle weight had to be limited to about 8 tons to enable two vehicles to be carried in the Hercules C-130 transport. With this restriction it became impracticable to provide accommodation under armour for all the weapons and equipment for all three roles, and so it was decided to proceed with a family of vehicles for the different roles but all based on the same hull and mechanical components to give maximum commonality.

The basic vehicle of the family is the Scorpion Fire Support unit which will enter service with the British Army in 1972. Based on the same hull, and with only minor variations of mantlet and stowage, is the Scimitar. It is armed with the newly developed 30 mm Rarden cannon and will operate in the fighting reconnaissance role. The 30 mm Rarden cannon fires all types of Hispano Suiza 831 L 30 mm ammunition and will destroy all



Spartan: The APC is shown fitted with Radar No 14 and the Radiac detector mounted on the hull roof. The artist's impression of the GPMG mounting is incorrect; the machine gun rotates with the commander's cupola and can be loaded, aimed and fired from under armour. The swimming screen fitted at the top of the hull has a step at the rear to clear the large access door at the back of the hull.



Samaritan: The armoured ambulance has a simple hatch for the vehicle commander and carries no weapons.

known light AFVs from a range of over 1,000 metres. Loaded with HE shell it deals effectively with soft targets such as trucks, and will even deter low-flying aircraft and helicopters.

The mechanism has a very short inboard length, and empty cases are ejected outside the turret. This means that the turret is neither cluttered by the breech or by empty shell cases, nor is the crew affected by powder fumes. Scimitar is also fitted with a co-axially mounted 7.62 mm GPMG and twin multi-barrelled smoke dischargers.

For the long-range anti-tank role the British Army decided upon Swingfire, a solid fuel propelled wire-guided missile, with a warhead capable of destroying all known Main Battle Tanks up to a range of 4,000 metres. To employ this weapon system in the CVR(T) family, the Guided Weapon carrier Striker was designed to carry a number of Swingfire in armour protected launchers ready for action, and a reload of missiles carried within the hull. Striker carries a crew of three, driver, vehicle commander and missile controller.

To accommodate the launchers and the reserve missiles, the upper hull was designed in a box shape. The driver is in the same position as in Scorpion, but behind him sits the vehicle commander in an all-round-vision cupola mounting a 7.62 mm GPMG, which can be loaded, aimed and fired from under armour. To his right is the missile controller with his vehicle-

mounted sight. If required, the Striker can be left under cover while the missile controller takes a separate sight to a firing position well away from the vehicle.

The Royal Armoured Corps Assault Section of five men does not expect to have to fight as conventional infantry. Their role is close reconnaissance on foot, ambushes and related tasks. Their armoured Personnel Carrier of the CVR(T) family is not, therefore, to be compared with, or a replacement for, the FV 432 or the Saracen APCs. Spartan, as it is named, carries a vehicle crew of two, driver and commander, and the RAC Assault Section of five men in a box-shaped hull similar to that of Striker. The vehicle commander has a machine gun/observation cupola as on Striker, and the assault section sit in the rear of the hull, together with a large amount of specialised equipment and explosives. They are able to fire their personal weapons from hatches in the hull roof. Spartan can be equipped with Radar No 14 for ground surveillance duties. Access is by a large door in the rear of the hull.

An integral part of the Reconnaissance Unit is the Armoured Recovery Vehicle, and this member of the family is appropriately called Samson. With the same box-shaped hull as the APC, it has a recovery winch fitted inside the hull, driven by the vehicle main engine. A simple jib is available to give a lifting capability, and twin spades are fitted at the rear to improve winching performance, which is 12 tons maximum with a 4:1 snatch block.

Sultan, the Armoured Command Vehicle, has a special hull giving 12 inches greater headroom inside than the APC version. This allows stowage of additional radio sets, mapboards and signal batteries. A folding penthouse stowed on the rear of the hull doubles the accommodation of the command post when static. The vehicle commander has a pintle-mounted 7.62 mm GPMG for local protection.

Using the same hull as the command vehicle, Samaritan, the Armoured Ambulance, carries a crew of two, driver and Commander/Medical Orderly. Accommodation is provided for four stretcher cases, or two stretcher cases and three sitting cases, or six sitting cases. As an ambulance, Samaritan is, of course, not fitted with any armament.

In all these variants of Scorpion the general characteristics of

Su-76i—from page 192

of the photograph, Russian tanks did not normally carry red stars or numbers.

Other details of the original are that it had a crew of four, carried 98 rounds and weighed 22.5 tons. The German Maybach 300 hp engine gave a top speed of 50 kph. Conversions of the captured originals continued during 1942-43.

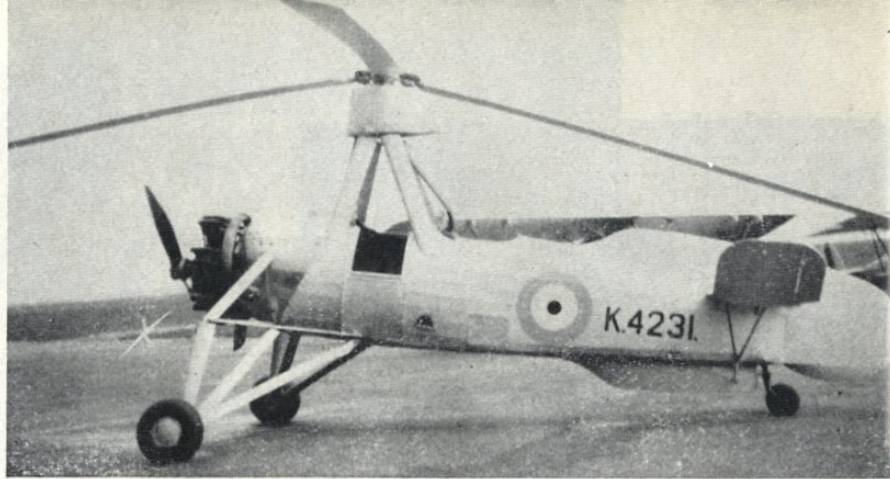
As this conversion had to rely on only one photograph and a lot of conjecture I am well aware that my model may be inaccurate in many respects. So please, if you know anything about the rather obscure Su-76i, write in and let us have your informa-

tion. I will be more than happy if my model is inaccurate as at least another small bit of tank history will have come to light. Until then, this conversion of the Su-76i will make an unusual and interesting addition to any collection.

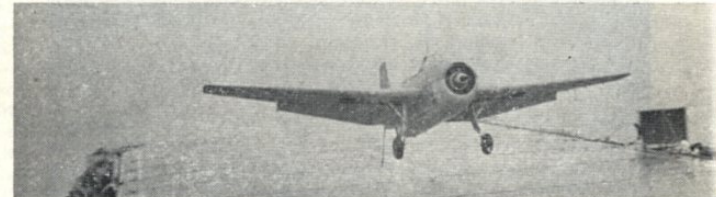
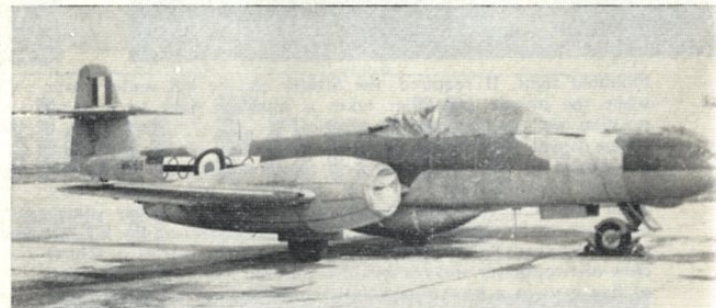
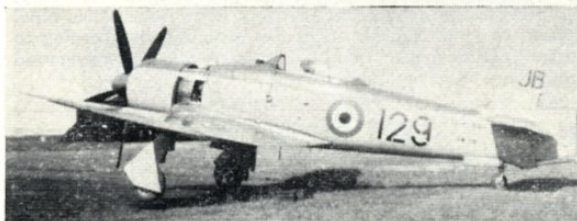
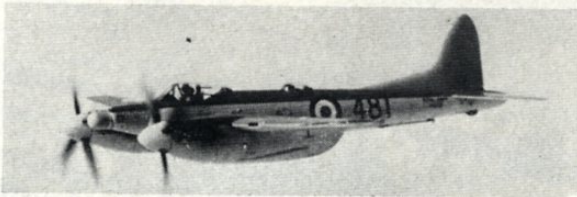
In last month's Scorpion article the word 'insulations' should have read 'installations' (bottom left picture, page 146). The vertical exhaust tailpipes shown on the prototype will, in fact, be fitted to production vehicles.

photoPAGE

More rare pictures from readers with captions by **Michael J. F. Bowyer**. A free Airfix kit is awarded for every picture published, but please note that there is usually a delay of some months before publication due to the limited space at our disposal.



Above right: A fine close view of Avro Rota K4231, the same aircraft as was illustrated last month. The picture was taken at Old Sarum in 1935 (W. S. O. Randle). **Below:** Mosquito T3, RR289, suffering from glue-rot at 109 MU. This machine belonged to 249 Squadron, a unit whose aircraft have only been rarely illustrated before. It is coded GN in dark letters outlined in white (M. Lowe).



Top: Meteor NF11 WM168 of 87 Squadron in standard camouflage scheme and displaying squadron colours (D. R. Eyre). **Above:** Avenger, code 4P, landing on the escort carrier Empress sometime in 1944-45. Can anyone identify the Squadron? (A. Boyle). **Above left:** Sea Hornet NF21, VV438;481, of 809 Squadron in about 1951. Standard FAA finish (R. Readman). **Left:** Sunderland KC-F takes off from RAF Mount Batten, Plymouth, in 1938. Note A type roundel on fuselage. **Lower left:** Sea Fury II VW718;129/JB at RNAS Anthorn in 1950; note stencil-type markings. **Bottom left:** A Soviet Yak-9D photographed somewhere in Germany in 1945-46 (R. C. Gibson). **Below:** A fine view of Firefly 5s in circuit over HMS Vengeance in about 1950. Note hooks lowered and underwing attachment points. At this time Vengeance was a training carrier which may account for the lack of codes on WB344 (nearest) and the other machine; 217 is coded for HMS Ocean (R. Readman).



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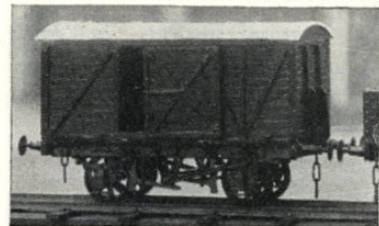
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NEW

KITS AND MODELS

Three Aitch: 8 ton Box Van

THE firm of Three Aitch Mouldings are producing a range of excellent O gauge kits of British railway wagons, the latest release being an 8 ton Midland Railway outside framed box van. This follows the same style as the open wagon reviewed a few months ago, following the general appearance of the Ratio and Airfix OO gauge wagon kits as far as breakdown and assembly goes. The larger scale really does justice to the subject, the solebars and ironwork, for instance, capturing the true 'look' and texture of the real thing. Assembly is quite straight-



forward—an evening's work—though care is needed to get the chassis true. Scale wheels are included, with separate needle-point axles to which they must be force-fitted. As an alternative, metal wheels are available to special order. On the box van the doors slide open and metal scale three-link couplings are provided. The roof is fashioned from a rectangle of plastic card which has to be pre-curved (round a jam jar or similar object) to fit. This is done by taping the card down and immersing it in hot water. It is the only possibly tricky part of the whole model, though really quite easy. We found that our roof, unsupported, sagged a little in the middle but if anything this added to the realism, giving an impression of age. The finished model looks splendid and if suitably photographed could well be mistaken for the real thing. Minimum trimming and filing is necessary during assembly. Price of the kit is £1.25 and it can be had by post from Three Aitch, Haygarth Road, Grimsby, Lincs, or from larger model railway stockists. C.O.E.

Heller: 'Cadet' series ships

AMONG the latest releases from Heller of France, now available again in Britain, is a series of small-scale ship kits, featuring famous period vessels. These are quite simple little kits with a fair amount of detail included, but obviously call for a little extra in time and patience to paint and install rigging.

The box illustration is a useful guide for this and, if followed faithfully, quite a pleasing little ship model will result. An advantage of these small boats is they can be mounted into a seascape, using Polyfilla or plaster to form the sea with a curved backing depicting sky and horizon. The whole effect is achieved

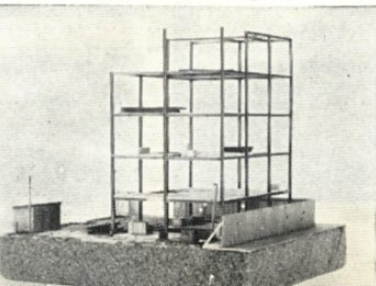
without any great effort.

The seven ships in the series form a very attractive collection and are reasonably priced at 20p each. They go quite well with the similar Airfix ships of this type, though the scales are variable. Naval wargamers should find the series useful. *Santa Maria, La Providence, Marie Galante, L'Orgueilleuse, Phénix, Bonhomme Richard* and *Royal Louis* comprise the range and our samples were the last three, all excellent for 18th century naval wargames. Riko are the importers and most model shops will be stocking these kits. B.L.

Plastruc: building materials

THE latest catalogue and handbook has arrived recently from Plastruc Inc; it contains full details of their very extensive range of plastic moulded structural shapes for modellers. These parts are made from ABS which is a plastic similar to styrene but stronger and more rigid; it is also more resistant and can be painted with lacquer paints which would attack the surface of styrene. The shapes available include H, T, I beams, angle girders, and tubing. Sheet and strip plastic and clear plastic sheet are also marketed. Detailing parts include manhole covers, valve wheels, ladders, stairs, handrails, and also figures of workmen. Plastruc Liquid Cement is recommended for joining ABS parts. The parts are available in various sizes covering the three main model railway scales (1:48, 1:86, and 1:160). There are now two kits of ABS parts, one for an elaborate and interesting petro-chemical refinery, the other for a very attractive period railroad swing bridge. The plans for these two models and also other railway bridges, a gravel loading plant, an oil well, a building under construction (illustrated here), etc, are sold separately. The kits are produced for five scales, O, S, HO, TT, and N. All plans give prototype measurements and a bill of materials for each of the five scales. The catalogue includes some useful information on working with Plastruc materials and parts. These are excellent products and of great value to the scratchbuilder; unfortunately they are not imported into Britain as yet and must be bought direct. The catalogue is available from Plastruc Inc, Dept P, 1621 North Indiana Street, Los Angeles, Calif, 90063, USA, for 50 cents in US currency, not sterling. M.A.

This interesting model was built following the Plastruc plan and using Plastruc girders and other parts.



AMT: 1:25 scale vehicles

WE have received samples of the latest AMT releases from Jones Bros of Chiswick. They are all modern American vehicles to the same scale, 1:25, and the six kits are as follows:

The Ford 'Short Hauler' truck; this has a city delivery body with opening rear door, operating lift tailgate and dummy V8 diesel engine, etc. Priced at £5.07.

The Chevy 'Titan 90'; this is the six-wheeled power unit of the modern trailer lorry; the model has the tilting cab and replica supercharged engine, etc, of the prototype. Priced at £4.20.

The 'Double Header' kit contains two 27 foot trailers typical of present-day transport. Again all the relevant parts are included and these can be used in conjunction with the 'Titan 90'. The price for this kit is £6.99.

The Ford Interceptor police car; comes complete with all the details of the full-size vehicle, with flasher beacons, siren, loudspeaker unit, etc, with all the glamour of the American police car. The price is £1.92.

The fifth kit is the 'Chevy Rescue Van', this can be built in four different versions—Police, Custom, Stock, or Fire. In this latter capacity it could be part of a fire fleet. Included are radio communication equipment, oxygen cylinder, fire extinguishers, flashers and siren. This is priced at £2.55.

The 'Custom Pumper' is a replica of the latest American LaFrance fire appliance. It is equipped with vinyl hoses, reels, control panel and axes, etc. This vehicle is used in conjunction with the AMT 'Ladder Chief' which is based on a similar chassis. The 'Custom Pumper' is priced at £5.99.

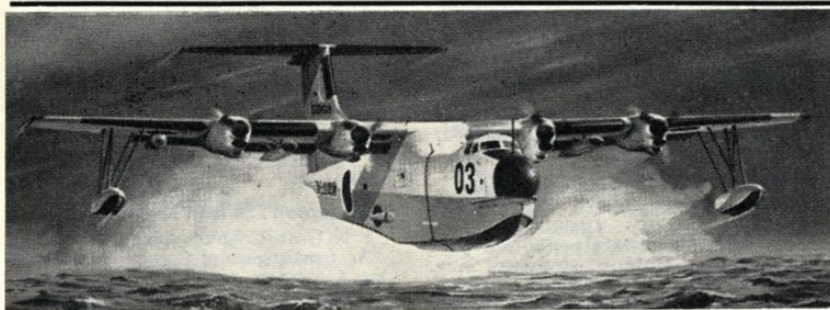
All the kits are well detailed with complete separate chassis, and are moulded in white with chrome parts, to British eyes a little too much chrome in places. The wheels are fitted with vinyl tyres of the correct pattern. The driving cabs are fully detailed and all lights and indicators are reproduced. In fact, there is not much missing in the way of fine detail. Being white, painting is easier and the brush can be used to great effect on various details.

An advantage in this scale is that the pieces are reasonably sized. Removing the chrome where necessary is possibly the most tedious job. The parts are not numbered, which calls for close observation of the instruction book sketches—these are not always very clear, so construction should not be rushed and where one unit is being attached to another a careful check for any discrepancy is suggested. These new kits are in no way complicated in their assembly and produce quite impressive models of the originals. Due to the US dock strike supplies are limited at the time of writing. B.L.

Continued on page 222
AIRFIX magazine

MODEL TOYS

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P-39 Airacobra	1/48	90p
Junkers JU-87G	1/48	90p
Mosquito II/IV/VI	1/48	£1.35
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7. P-40-N Warhawk
8. Griffon eng. Spitfires Mk. XII-24
9. Spit VII and XIII Scouts
10. P-38 Lightning
11. B-24 Liberator
12. Avro Lancaster
13. Nakajima Ki-43, Hayabusa I-III
14. F/R-84F Thunderstreak
15. B-17BH Fortress
16. Mitsubishi A6M Zero
17. North American F-86A-L Sabre
18. Nakajima Ki-27 Nate

FUJIMI

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FROG

*Recommended for Modeldecals		
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GR. Mk. I H.S. Harrier*	1/72	50p
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BAC Lightning 6*	1/72	50p
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F-102A D. Dagger*	1/72	61p

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1/72



1/72



This recent addition to the Hasegawa 1/72 range, is treated in their usual manner, with fine attention to detail. A truly impressive model. price £3.75

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NOTE. All Modeldecals sheets contain full markings to complete all models listed except sheets nos. 1, 2, 7, 11, 12 where the 'D' type roundels are used from the respective kits, also is the Nat. Insign. for the F-102. However, the Hunter section only on No. 7 does include roundels. Harrier markings on No. 7 are intended to complement those in the Frog kit. Instrument panels included for all machines on sheets Nos. 7, 9, 10, 11, 12, except the C-47N.

PRICES

Modeldecals Nos. 1, 8, 9, 10, 11, 12	38p	Postage on all decals:
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December 1971

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New Kits — continued

Nichimo: 1:48 scale Spitfire IX

NICHIMO kits are imported to Britain by A. A. Hales Ltd, PO Box 33, Hinckley, Leics, from whom we've received a review sample of a recent offering, the Spitfire Mk IX in 1:48 scale. As a good, honest kit, easy to put together, this would serve as an excellent starter for anyone wishing to try 1:48 scale. The mode of assembly almost exactly duplicates the Airfix 1:72 scale Spitfire IX kit except that a simple retracting undercarriage is included. There are no other working parts save for the rotating prop. We did not check measurements, but visually the model looks accurate in shape and detail, while the correct dihedral is assured by the one-piece lower wing moulding. Parts fit neatly together and while the rivet and panel detail tends to look a bit heavy, it is neatly subdued when the model is painted. There is an over-size fairing at the base of the radio mast which needs removal, and the cockpit is bare except for the seat. The model lends itself to added work of a simple nature (eg, detail for cockpit, cut out control surfaces) and would form a good basis for conversion to other variants as is possible with the Airfix 1:72 scale version. Good transfers are supplied for a 312 (Czech) Sqd machine of 1944. Colour painting guides are given (in colour) for this aircraft plus some alternatives for which, however, no transfers are supplied. Priced at £1.15, the kit can be had from most model shops, certainly from all those advertising in this magazine. C.O.E.

Lasset: 54 mm model Soldiers

A MONTH or so ago we reviewed the outstanding 54 mm model of a French Imperial Guardsman of the 1st Empire period and expressed the hope that this would be followed by a series of these Napoleonic figures. This hope has now been realised, and three more figures have been issued to augment the guardsman. They represent an officer, a sapper, and a drummer, all of the Imperial Guard, and, as is the case with all Lasset figures, are individually animated to produce unique pieces. Every detail of dress and equipment has been skilfully brought out in the engraving, and we were particularly impressed with the authentic forward leaning appearance of the bearskin caps. At £1.06 each, plus postage, these delightful models are excellent value, and can be obtained from Greenwood and Ball Ltd, c/o 2 Imperial Drive, North Harrow, Middlesex. Issued concurrently with the French Grenadiers are four more figures by Lasset, these depicting types of the American forces in the War of Independence. They are coded as follows: LA1—Officer, Baylor's Dragoons; LA2—Roger's Ranger; LA3—American Line Infantryman; LA4—an Indian. All are of the usual high standard we expect from John Tassel's designs, and they will be welcomed by enthusiasts for the period. Individually animated, and undercoated ready for painting, these figures can be supplied by Greenwood and Ball Ltd, c/o 2 Imperial Drive, North Harrow, Middlesex, at a price of £1.06 each plus postage, securely packed in an attractive and robust red card box. R.S.D.



Historex Scots Grey's dragoon converted by Anthony Dilley to depict Sgt. Euart at Waterloo.

Historex: 54 mm scale kits

THE eagerly awaited kits of the Royal North British Dragoons (Scots Greys) of the 1812-1815 period are now available from Historex, at present only as mounted figures. The wealth of detail for horse and man that we associate with the products of this company is noticeable in this series, which consists of figures representing an officer, a guidon-bearer, a dragoon and a trumpeter. Careful assembly and painting will result in truly magnificent connoisseur replicas, whilst the enthusiast for conversion can give full rein to his art since the hard polystyrene from which these models are cast is eminently suitable for this type of work. In addition to the usual comprehensive assembly instructions and diagrams, each kit contains a full colour plate showing details of uniforms and horse furniture. Altogether a most praiseworthy set of figures for which Historex deserve full marks. We hope they will soon be adding some more British subjects to their range. Dismounted figures of the French Marshals Berthier, Davout, Bessieres, Murat, Soult, Mortier, St Cyr, and Poniatowski have also been produced recently by Historex. They are exquisitely engraved, the last named in his Polish type uniform being particularly splendid. A full colour plate is included with each kit, together with assembly instructions. All models can be obtained from Historex Agents, 3 Castle Street, Dover, by whose courtesy we received our review samples. At £1.65 for mounted and 80p for dismounted pieces, plus postage, these kits are extremely good value. R.S.D.

Canadian War Museum: uniform cards

THE first four in an interesting new series of full colour postcards of Canadian regiments have recently been published by the Canadian War Museum. Reproduced from original paintings by R. Marriot, these attractive cards depict an officer, Royal 22e Regt (Vandoo) in present-day full dress; a drummer, Princess Patricia's Canadian Light Infantry, full dress 1927; a field officer, Canadian Dragoons, full dress 1898; and a rifleman, Queen's Own Rifles of Canada, service dress 1885.

This series, which modellers and uniform enthusiasts alike will find of considerable interest, is printed on glossy card in bright, clear colours, with well-defined detail, and will eventually consist of more than two dozen subjects.

Cards cost 16 cents each from the National Museum of Man, Canadian War Museum, Ottawa, Canada. R.S.D.

Les Higgins: 25 mm scale figures

NEWLY released by Les Higgins Miniatures are a superb series of 25 mm scale metal figures covering the Napoleonic and Colonial War periods. These castings are really fine, with detail and definition, not to say scale proportion, surpassing most others in this size. The figures are sold in sets of four basic positions at 29p per set.

Sets available include Old Guard, Line Infantry and Light Infantry (British), Foot Dragoons, British Infantry in Foreign Service Dress (1890-1900 period), Fuzzy-Wuzzies, and Dervishes. Most shops selling military miniatures now stock Les Higgins figures. BMW Models of Wimbledon can supply by post (postage extra). D.L.

Sanderson: 54 mm scale figures

ANOTHER figure depicting a young female slave of European type holding a garment against the front of her unclothed form, has been added to the Roman Slave market set produced by this designer. The anatomical modelling, as is customary with Cliff Sanderson's work, is very well done, and the features are sharply defined. Cliff has also produced two more saucy little females to add to his attractive range of 'military' girls. One is drying herself with a towel whilst standing in the wooden tub in which she has been washing. She is completely nude except for the Prussian Dragoon helmet perched jauntily on her head. The other is a Medieval Miss, again attractively unclad save for a knight's helmet, greaves, and one gauntlet. She carries an impressive mace, and has a voluminous cloak draped in a revealing way about her person.

Sanderson female figures are all priced at 90p each plus postage, and are available from Greenwood and Ball, c/o 2 Imperial Drive, North Harrow, Middlesex, who supplied our samples. R.S.D.

Soldier Centre: display bases

LATEST aids for the growing numbers of modellers who wish to display their work in miniature environments are the diorama bases now available from the Soldier Centre. These are made from warp-resistant veneered Weyroc (chipboard), with nicely bevelled edges, beautifully finished, and with a shallow, irregularly shaped recess on one side, which serves as a key for scenic materials and figures from which a diorama scene can be built up as desired. At a slight extra cost the underside of the base can be covered in green Fablon to guard against scratching polished display areas.

These useful items will have an instant appeal to the enthusiast who wants to give his creations a really professional finish, and they can be obtained in various sizes, priced accordingly, from 3 x 6 inches at 40p to 12 x 36 inches at £2.70.

Highly recommended, these bases are supplied by Soldier Centre, 94 St Clements, Oxford, who also publish a comprehensive catalogue of items useful to all military modellers. R.S.D.

Tamiya: 1:100 scale helicopters

NEW additions to the delightful Tamiya range of 1:100 scale aircraft kits are three helicopters: the Boeing-

Continued on page 228

BOOKS for modellers

Unless otherwise stated, books reviewed are normally available from your local bookshop or from hobby shops which sell books for enthusiasts, including the mail order stockists advertising in this magazine. As a last resort they can be obtained from the publishers whose addresses are given when known. In all cases of mail order, however, suitable postage should be added to the selling prices quoted.

RAILWAYS

Cheltenham Flyer.

Locos of the Royal Road. Track Topics.

W. G. Chapman.

Patrick Stephens Ltd, 9 Ely Place, London EC1.

£1.60 each.

THREE further titles complete the whole range of facsimile reprints of the famous GWR books of the 1920s and 1930s which PSL has republished in the last year or so. The books are packed with the kind of reference detail that all rail modellers following GWR practice will find most useful. Taking the titles in the order listed, *Cheltenham Flyer* tells the story of the train of that name, then goes on to describe 'behind the scenes' activities mostly related to passenger train operation. The narrative is based on an imaginary journey on the train itself. *Locos of the Royal Road* is a very detailed history of GWR locomotives, culminating in the 'King' class which gives the book its title. The last book covers all aspects of track and trackside engineering, like bridges, tunnels, and so on. These are very fine books, profusely illustrated; we notice that the three books covered here are printed on a 'whiter' paper than earlier titles in the series and as a result there is greatly improved reproduction of the pictures.

Loco Profile 16; Union Pacific 4-12-2s.

Loco Profile 17; Jones Goods and Indian 'L'.

40p each.

Locomotives in Profile, Volume 1.

Brian Reed (Editor).

£6.50.

Profile Publications Ltd, Coburg House, Sheet Street, Windsor.

TWO new Loco Profiles provide a contrast in subject. No 16 covers the huge UP 4-12-2 but includes for comparison all other twelve coupled types and illustrates most of them; the colour art is restricted to the all-black UP locomotive. No 17 features the beautiful Jones 4-6-0 of the old Highland Railway, surely a good candidate for reproduction in model form. The artwork is superb. Included in this publication are some locomotives (the 'Ls') of similar design built for India. The first 12 Loco Profiles are now available in the customary bound form, and a very handsome volume it is too, an ideal gift for the railway enthusiast. This book is certainly the best looking and most distinguished of all the bound Profiles we've seen.

Railway World Annual.

G. M. Kichenside (Editor).

Ian Allan Ltd, Terminal House, Shepperton, Middx.

£1.50.

THIS is really the well-known *Trains* Annual of past years under a new title. It follows the customary format with scores of pictures, some in colour, and about 19 story or picture features with an excellent mixture of old and new topics. We liked in particular an interesting piece on the outer reaches of the Metropolitan line in 1916 when it was way out in the country at places like Ruislip. Steam nostalgists are well catered for and several features cover interesting foreign railways. This book is a good buy at its modest price for the armchair railway fan.

Narrow Gauge Model Railways.

Michael Andress.

Almark Publishing Co Ltd, 270

Burlington Road, New Malden, Surrey. 90p (paperback); £1.50 (hardback).

WRITTEN by an author whose name is familiar to readers of this magazine, this publication is the first of a new Almarks series of model books. It deals in detail with all aspects of the narrow gauge side of model railways with layout ideas, a survey of available equipment and choice of scales. Coverage includes conversions, buildings, scenery, stock, accessories, and just about everything else connected with the subject. As a narrow gauge layout can be fitted into 2½ ft (as the book demonstrates), this should be a useful ideas book for anyone lacking space for a standard gauge layout.

AVIATION

The Debden Eagles: 4th Fighter Group in World War 2.

Garry L. Fry.

£3.25 (post paid).

Historical Aviation Album: Volume IX.

Paul R. Matt.

£2.35 (post paid).

Distributed outside the American continent by W. E. Harsant Ltd, 228 Archway Road, London N6.

THESE two books are of similar large page paperback format, both produced by Kenn C. Rust and published in USA. *The Debden Eagles* is a most interesting pictorial record of the operations and other activities of the famous 4th Fighter Group USAAF which came into being when the three RAF Eagle (American volunteer) squadrons were transferred to USAAF control in August

1942. The Eagle squadrons had, of course, been flying as part of the RAF for a couple of years before that. Spitfires, Thunderbolts, and Mustangs were the successive mounts of this famous group and the dozens of pictures presented here are from squadron and personal records, almost all, it seems to us, newly published. The book is a treat for modellers since it has colour scheme drawings of representative aircraft and five colour pictures taken in 1943-45. There is a chronological record of operations, and aces are listed, but the real delight of the book is the informatively captioned pictures which really do recapture the wartime atmosphere. Apart from numerous aircraft shots, all other aspects seem to be pictured—briefing, inspections, maintenance and recreation among them. Quality of production is excellent.

Similar comments are applicable to the fine new edition of *Historical Aviation Album* which reaches higher standards of presentation with every issue. The emphasis is almost completely on the American scene and articles in this issue cover the Aeromarine 39B, an early US Navy training aircraft—with splendid vintage aircraft carrier shots—Consolidated flying boats, and the Ryan ST and SC series among others. Excellent scale drawings and colour photographs are included.

Flying Boats and Seaplanes Since 1910.

Kenneth Munson.

Blandford Press Ltd, 167 High Holborn, London WC1.

£1.15.

A MOST attractive volume, this is the latest in the well-known Blandford 'Pocket Encyclopaedia' series and features 69 types in full colour multi-view drawings, with historical notes at the back of the book. Generally speaking, the colour rendering is good, and the book is handy for reference as seaplanes seem to get less attention in book form than other types of aircraft.

World's Air Forces.

Osprey Publishing Ltd, 707 Oxford Road, Reading, Berks.

£2.00.

WRITTEN by David Wragg (author of *World's Air Fleets*), it gives a brief history of each air force and a breakdown of their present strengths, aircraft types and personnel. Arranged in alphabetical order of country, it is one of the most comprehensive reference books of today's air forces. Invaluable to enthusiasts and experts alike, containing over 60 photographs and an index to modern aircraft-types, plus NATO code names for Russian military aircraft.

British Naval Aircraft Since 1912.

Owen Thetford.

Putnam & Co Ltd, 9 Bow Street, London WC2.

£5.25.

THIS is the third edition of a very well-known reference work which offers a complete record of everything flown by the Royal Navy up to the present time. If carriers finally disappear, it may in fact be the complete record, for this new edition is brought right up

Continued on page 227

Letters to the Editor

Phantom detail

WHILE reading the painting instructions of the latest Airfix Phantom, I noticed that the F4-D shown is the same as the one shown in the April 1970 edition of *Airfix Magazine*, being a machine of the 431st Tactical Fighter Squadron USAF. The kit has all the correct markings but the jet orifice to be used to make up the F4-D is wrong. Airfix suggest using the old smaller type (as used on F4-B) but in the article mentioned above, it showed the new, larger type (as used on F4-E). It's not a big mistake but to the modeller who wants correct details it is essential. Also, to complete the model a 'stabilator "feel" pressure inlet' made from a small piece of spare plastic could be added. This goes under the pilot mast on the vertical stabiliser.

Iain Barnard, London E11.

Airfix Harrier

IT may be of interest to readers to know that the Harrier aircraft, as depicted by the Airfix kit, XV738, is currently employed by the flight test department of Rolls-Royce, now concentrated at Filton. The aircraft has lost most of the camouflage scheme originally applied, and for the most part is finished in natural metal.

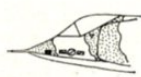
As I like to finish as many of my models in the markings of operational squadrons, as far as possible, I would like to suggest an easy way of bringing the Airfix Harrier 'into service'. It is an easy 're-paint' job to turn XV738 into XV783 of No 4 Squadron, based at Wildenrath as part of the Second Tactical Air Force in Germany.

Make the model in the approved manner, with modifications to the vortex generators and additional ailerons to taste, and remember not to add the underwing stores or pylons until after painting and applying the new markings. Underwing serials and fuselage serials are applied, reversing the '8' and '3'. The roundels are applied, 'B' type (I used Almarks) to the upperwing and engine intake sides, and the kit-supplied 'D' type to under the wing. The two-tone fin flash I modified from an Almark fin strip, and the ejector seat and 'Rescue' markings I used from the kit. The difficult bit comes when you apply the squadron markings. There are



1. Black. 2. Red. Lighting 'streaks' and outline to aileron and nose - Yellow.

Markings positioned either side of Harrier nose. (Drawing not to scale.)



no transfers available of No 4 Squadron markings, so I was forced to manufacture my own by painting on a spare bit of transfer sheet, covering in matt varnish,

CONTRIBUTIONS

Letters to the Editor selected for publication entitle the senders to each receive a free Airfix plastic construction kit, and the publication of photographs from readers is similarly rewarded. As from this issue a new scheme comes into force whereby Airfix Products Ltd award the kits on the following scale:

ONE letter or photograph published is rewarded by any kit from Series 1-6 inclusive. For TWO letters or photographs any one kit up to and including Series 9 can be chosen, or alternatively two kits up to Series 6. For THREE separate contributions (eg. photographs) the entitlement is one kit up to Series 12 or three kits up to Series 6. Readers can make their choice on the special card which we send out after publication. The kits are supplied direct by Airfix Products Ltd.

We receive a large volume of mail from readers; all letters are read and we answer or acknowledge as many as possible provided that a SAE or stamp is included for reply. The Editor cannot accept responsibility for safe keeping of contributions though every care is taken. Opinions expressed by correspondents on this page are their own and do not necessarily reflect the views of the Editor or Airfix Products Ltd.

and applying in the usual manner. When this is completed, all that remains is to paint the pylons a dark green (to match the camouflage green) together with explosive warning triangles, similar to ejector seat triangles edges in white. Cement them to the model and arm the Harrier to your own taste. One example of a typical load would be cannon armament on the fuselage, SNEB pods on the outer pylons and tanks on the inner pylons. At this stage be warned! The tanks supplied with the kit are ferry tanks only, and would not be used in combat. To make them authentic, you need to extract 28 mm from the middle and cement the ends together again. Once this is done, you have a more than passable model of an operational Harrier of RAF Germany.

Michael J. Gething, Ascot, Berks.

Scots Greys

I HAVE found a way of modelling 20 mm Scots Greys which I find better than the way described by Robert Gibson in '1815'. Take a French Cuirassier and treat him, as described, for British Dragoons but then remove the figure's head and replace it with the head of one of the New British Grenadiers with the pigtail removed. This gives a much better figure which is easier to make and the resulting figure is more like a heavy cavalry man.

R. Lucas, Tadworth, Surrey.

Spitfire colours

I FEEL I must comment on several statements made in Alan W. Hall's conversion article on high altitude Spitfires (*Airfix Magazine*, August 1971). The structural alterations described in the article are as accurate as one could wish, although purists might want to remove

the cannon blisters from the wings and add new ones, from laminated plastic card, in the positions shown in the accompanying drawing. It should perhaps be mentioned that the Spitfire HF Mk VIII was not specifically designed as a high altitude fighter; it had the high-rated Merlin 61, 63 or 70 engine and the extended wings as a rather unusual extra, but no pressure cabin.

What really surprised me were the colour scheme details given with the article. First, the squadron and individual code letters of MD111 and most other Spitfire HF VIIIs were not Sky but Sky Grey, a colour which can be mixed from one part Humbrol HB 6 (Medium Sea Grey) and one part matt white.

The colour scheme of the Spitfire HF Mk VIII, as drawn, is remarkable to say the least. I should have thought that the camouflage was standard desert colouring, in which case 'sand' would be amended to Middle Stone, 'dark green' to Dark Earth, and 'Cerulean blue' to Azure Blue. As it stands, however, this scheme seems to be an instance of a deplorable American practice of labelling Dark Earth/Dark Green and Dark Earth/Middle Stone RAF upper surface schemes collectively as 'Sand and Spinach'. I think that this trend was perhaps initiated by the fact that certain American aircraft types destined for delivery to the RAF—Kittyhawks, Airacobras, etc.—were painted in a sand and dark green pattern. In the event these were diverted elsewhere, the P-40s to the American Volunteer Group (the 'Flying Tigers') in China.

The use of a dark green in JF 447's camouflage scheme may be an individual variation, but I cannot believe that the names given for the colours used on this aircraft are official designations. In any case, I would much appreciate it if these points could be cleared up.

C. T. Lovell, Woollahra, NSW, Australia.

More memories

I WAS interested in Mr North's nostalgic memories of Empire Air Day 1937, because I, too, remember that day (*Airfix Magazine*, October 1971).

I joined the RAF in 1936 and after my 'square-bashing' at Uxbridge, I was posted, of all places, to Turnhouse, Edinburgh, a mere hour's journey from home.

We did not have a Fury at Turnhouse for our display but we had a Gauntlet instead, and our biggest showpiece was also a Heyford, as at North Weald.

No 603 Auxiliary Squadron opened the show with close formation flying by Hawker Harts, and 83 Squadron, also based at Turnhouse, then demonstrated dive-bombing, with smoke bombs, in their Hinds, which brings me to the main reason for writing this letter.

It seems to me that Mr North's picture No 2, quoted as a Hawker Hind of 15 Squadron, is not in fact a Hind.

The only Hart variants fitted with the long, cranked, exhaust pipes, were the Demons, Hardy's and Audaxis.

The first Hinds had open ports, flush with the cowlings as on Harts, but later production models were fitted with 'ramshorn' outlets similar to those fitted on Hurricanes.

Looking closely at the photograph, there seems to be a gun trough running along the cowl under the exhaust pipe which would identify this aeroplane as a Demon because only a Demon carried two forward-firing guns.

Hinds had one gun on the port side only and Hinds also had a tail wheel, while the plane in the photograph appears to have a skid.

Hinds also carried heavy balance weights about six inches in diameter low down on the fuselage, just under the roundels. This feature is absent in Mr North's photograph.

Photograph No 4 of the Fairey Gordon, serial No K1160, is interesting in that it is one of a group of aeroplanes originally built as IIF Mk IV and converted to Gordons later.

The Blackburn Shark could be quite correctly designated Torpedo/Reconnaissance/Bomber, for in RN service it carried out all those duties!

Incidentally, I have a photograph of a 'one-off' Blackburn Shark which has a glazed cockpit cover and a three-blade Rotol propeller.

Oliver Telfer, Selkirk, Scotland.

Old Guard

AS most modellers will find, the long coats of the French Old Guard present quite a problem. With the advent of the Airfix Washington's Army, this can now be solved.

The pigtail and the American head are removed and a guard bandsman's head is placed on the neck. Next, the legs are built up with glue to simulate the long gaiters, and the unwanted powder horn is removed. With simple and careful painting, these figures give a very striking impression of an Old Guardsman.

As has been said by Keith Millard in this year's April *Airfix Magazine*, the double-breasted jacket of the Napoleon French Artillery can be used to make line infantrymen. However, this double-breasted jacket is correct for the Artillerymen, as has been proved by subsequent issues of the 1815 serial.

D. Thistlethwaite, Alnmouth, Northumberland.

Engine detail

A FEATURE of many aircraft kits now on the market is beautifully moulded radial engines. These often incorporate exquisite detail, and I feel that these are not done justice to if the engine is merely painted black or silver, so I have evolved two methods of painting which show this detail to the best advantage:

(1) First paint the engine matt black, and when dry 'stipple' over with Airfix gun metal on a mottling brush. This will impart a fine 'used' appearance to the part.

(2) Paint the basic moulding gun metal, and when dry, paint in small details in silver, steel (Humbrol R217) and copper. Use an OO size brush. This is a lot of work, but fantastically effective.

Also, a tip for those making vacuum-formed kits—before cutting out wheels, engines and similar parts, fill with body

putty. This will lessen the risk of component collapse at inconvenient times by making the parts much stronger.

J. J. Walker, Edinburgh.

Painting detail

AS a keen Airfix modeller, may I suggest an aid to painting the smaller details on certain Airfix models? An old dried-up felt/nylon tip pen will absorb paint, and will provide an easy method of painting small details, for which even the thinnest brush is often too clumsy, the very design of the pen being much more comfortable to the hand than an ordinary brush.

I found this method especially good for the 'lining out' on Airfix locomotives, and for the Airfix figures, but I am sure your readers could find numerous other applications for it.

Philip Bevan, Swindon, Wilts.

Chieftain finish

THE last photograph in AFV Profile 19 is a head-on view of a Chieftain. The picture shows three distinct textures, namely:

1. The polished turret.
2. The non-slip surfaces of the glacis plate.
3. The comparatively matt finish of the mudguards and stowage boxes.

To achieve this effect, first assemble the tank completely except for bits that break off easily (machine guns, headlamps), and wash it thoroughly in soapy water. Now go over the tank with an almost dry brush of the usual silver/black mixture of paint, picking out the sharp edges. Allow one day to dry and then paint the tank a matt dark green with a slight amount of Humbrol bronze paint added. After five minutes go over the glacis plate again with the paint brush but dab it this time to roughen the surface. Allow to dry for one hour.

Now take a large fairly stiff paintbrush and start polishing the turret and glacis plate. It is possible to get almost a gloss finish with the 'worn' parts now showing through in a realistic way. Finally, paint the thermal sleeve a matt brown which contrasts with the polished barrel.

Other improvements are to plug the mantlet hole with Plasticine to represent the small canvas cover and paint this matt brown also. Smooth off the rounded front of the headlamps, drill a small hole in the centre to represent a light bulb, paint silver and then, when dry, add a thin coat of varnish. The varnish is also realistic on the searchlight and armoured glass of the cupola.

Finally, the stowage box on the left of the turret; although this is actually made from rods, it can be represented by three pieces of 10 thou card which, when stuck on, can be covered by a piece of fine cellophane (sweet wrapper) to represent a canvas covering and then painted.

Alex G. Bell, Grove, Berks.

'Leander' corrections

THANK you for the recent model of a 'Leander' class frigate and also for publishing Peter Hodges' excellent article on improving this kit. However, there were several omissions and faults in the article which sticklers for detail might like to correct.

The circle on the flight deck should be offset but otherwise Peter Hodges' corrections to the markings apply.

The Seacat launcher, though the best Airfix have so far produced in a kit, is incorrect. The missiles should be on the corners of the launcher base, which is wrong anyway. The ideal correction is to remove the corners of the base, close-up to the missiles so that a smaller square base is left with the missiles at the corners.

Also, regarding painting details, the walkways around the 4.5 inch turret and the sonar well (represented as a series of short parallel ribs) should be painted a matt green, paler than the decks.

K. Hall, Ealing, London W13.

Belgian helicopters

AS a comment on the report devoted to the Fifth International Helicopter Rescue Meeting (*Airfix Magazine*, October 1971), I would like to add the following details.

The Belgian Air Force operates a small number of Sikorsky HSS-1s. They are based at Coxyde. The Belgian Navy operates two of them, OT-ZKH and OT-ZKG. They are painted dark blue and dayglo orange; a white anchor is painted over the left roundel. In a very near future, light shipborne helicopters will enter the service.

R. Cauchie, Brussels, Belgium.

Glazing material

I HAVE found a substitute for clear plastic card which I find is too thick for 1:76 scale windshields. It is a product by a firm called Hawid who make stamp hinges; not the common stamp hinges, but a special type consisting of two rectangles of plastic the thickness of cellophane with the pliability of stiff paper. It can be cut with a craft knife and stuck to polystyrene with liquid cement. It is perfectly clear and does not have the warps found when looking through so-called 'clear' plastic card. As yet I haven't found a use for the other piece of plastic so it ends up in the spares box.

N. Wedderburn-Ogilvy, Milngavie, Dumbarton.

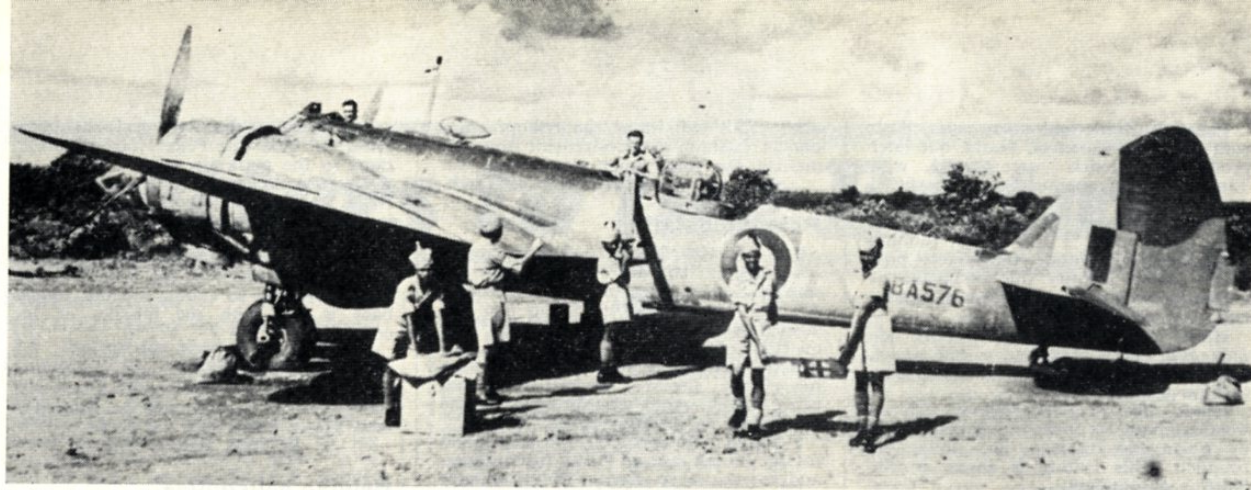
Paint tip

WITH reference to N. J. Thatcham's letter (May 1969 issue) that if you spray plastic cars, aircraft, etc., with cellulose car spray it will attack the plastic. My father recently sprayed my Ford Capri Aubergine. First he gave it a very thin coat of paint and let it dry. After it was hard he then gave it another coat and let it harden. The next day he sprayed it until it came up to the correct colour. The roughness that was left was slight 'orange peel'. This is polished with Duraglit until smooth and shiny. Parts 55 and the appropriate part of 35 are then painted with the touch-in can of Aubergine, same method as above.

Geoffrey Fisher, Westminster SW1.

Mr Fisher sent us a sample of plastic treated in the manner described. It looks very good.—EDITOR.

Waffen-SS: Its Divisional Insignia, reviewed last month on page 138, is obtainable from Key Publications, 34 High Street, Sevenoaks, Kent and not from the address we quoted in the review.



BA576:N, a Blenheim VD of an unknown squadron in India. The roundel has been partly modified to that used as standard in SEAC from 1943, the fin stripe completely so.

Bombing Colours—from page 202

but it was too late to do anything about it. Specifications were issued to the industry in Britain and de Havilland among others hastily prepared plans. These were discarded in favour of a British specification placed with the Vultee company in America for the design of a dive-bomber, which became the Vengeance, first flown in July 1941. It was mid-1942 before the aeroplane began to be delivered to the British, by which time the considerable number on contract provided some embarrassment. The Vengeance was not fast enough for employment over Europe where its rôle would be of little value now. It was poorly armed, and came on to the scene when effective fighter-bombers were being evolved amidst vastly changing close-support ideas. The dive-bomber, many considered, was a sitting target to ground defences. In the Middle East, close support squadrons were successfully operating Bostons and Baltimores and there was no need for the Vengeance. An unkind notion later existed to replace the Blenheim in Bomber Command with the Vengeance, and AN888 and AN889 arrived for evaluation at Boscombe Down in July 1942. Mercifully this latter-day Fairey Battle was not foisted on to the home-based squadrons; instead it was now to pass to India and the Burma front where, it was reckoned, it could be operated with less risk than over Europe. The Vengeance virtually slid into SEAC supplies building up in 1942 and '43, the initial commitment being two squadrons, Nos 82 and 84. AN609 later found its way to Farnborough for prolonged work and AN610 was brought to the Bomber Development Unit at Feltwell for further evaluation; completed at Newmarket in October 1943. My recollection of this aircraft is chiefly of the Harvard-like sound she made, her angular form being quite unlike any other aeroplane around at the time. AN610 was finished Dark Brown/Dark Earth/Yellow. Like quite a few 'prototype' and experimental aircraft she had a yellow letter 'P' on the fuselage without the yellow circle prescribed for prototypes.

The first Vengeance squadron in the Far East was No 82 which began equipping at Drigh Road. AN956:U was with the squadron in June and other early aircraft included AN845, '852, '921 and '947. By mid-1943, Mk I IA and II were in service. No 84 Squadron received Vengeances at Quetta, No 110 Squadron began getting them at Quetta in October and No 45 received its first two Vengeances on December 11. The first operation with the new type was flown by No 82 Squadron on December 17, an anti-submarine patrol over the Bay of Bengal. No more operations were flown for many months, and No 110 Squadron began operations from Madhaigang on March 19, 1943. This was a high level bombing mission, and the Vengeance was destined never to serve much in its dive-bomber rôle. 110's aircraft in use in March 1943 included AN919:A, AN920:L and AN927:N, all finished in Dark Green/Dark Earth/Sky with medium grey individual letters aft.

To form the nucleus of a night-bomber force a few Wellington ICs reached Ansansol, India, in April 1942 in the hands of 215 Squadron, wearing the usual temperate scheme camouflage and

had grey individual letters. Their subsequent bases were Pandaveswar between April and August, Madras until October, and Chaklala up to March 1943. No 215 was joined by 99 Squadron also with ICs which arrived at Pandaveswar in September 1942 and moved the following month to Digri.

Failure to develop a Blenheim replacement gave a major headache to Bomber Command. The Bristol Buckingham might have fulfilled this niche but its requirement specification had been issued too late. The Mosquito in its then current form was not a replacement and in very short supply. When the Blenheim's useful life ended late 1941 there was nothing to take its place apart from the Boston, also in short supply. Bristol, however, had developed the Blenheim V, commonly called Bisley, designed as a close-support bomber, but it was only a small advance over the Mk IV. More to keep important production lines intact at Rootes than because the Air Force wanted it, Mk V production proceeded at a rapid pace in 1942, during the middle of which the Mk VD began to equip some home-based squadrons destined for north-west Africa. Since the Vengeance appeared to have tactical limitations, and because Blenheim spares were easily available, several Mk Vs were sent to India replacing Mk IVs in Nos 11, 34 and 113 Squadrons in autumn 1942. No 113 Squadron, for example, received its first VD, BA578, on October 18, 1942. It became evident that the fighter-bomber had more to offer than the Blenheim V which was ultimately replaced by the Hurricane. Therefore, in operations in 1943 the Blenheim VD, Vengeance, Wellington IC and Liberator II made up the bomber force.

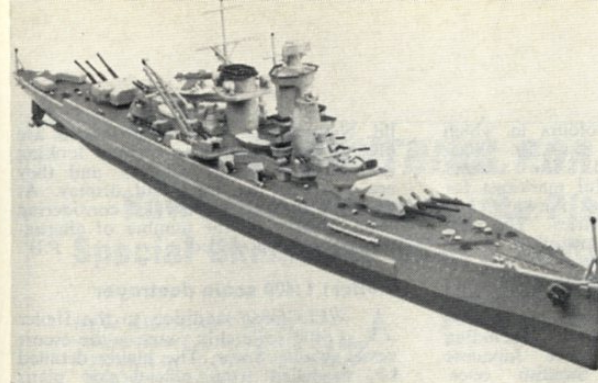
With the increase in RAF strength in India and new aircraft types slotted into the squadrons, the Army Commander, General Wavell, felt that he could launch an offensive into Burma by December 1942.

Wavell had a choice of three fronts: the Arakan, Arakan-Imphal and the route to Mandalay. He chose to act with caution, to attack Akyab and hold it as a forward base. Going was tough, with the RAF attacking villages, troops and transports ahead of the advancing Army in a campaign that lasted until May 1943. By then all the new types had seen some action and the bomber force numbered 11 squadrons as follows:

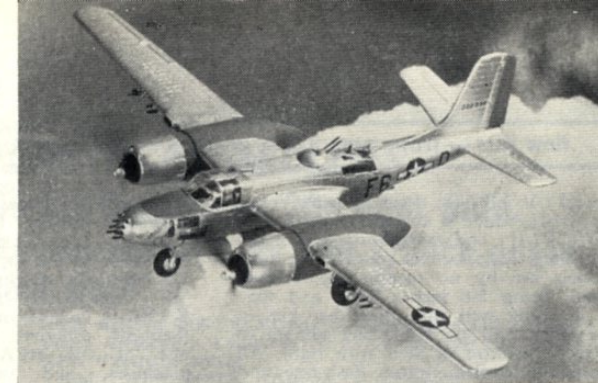
Sqn No	Equipment	Example	Base	Notes
11	Blenheim IV/VD	Z7803	Feni, India	
34	Blenheim IV/VD	BA287	Madras	Mk V first recd 12.42
45	Vengeance II	AN656-H	Ansansol	Vengeance recd 12.42, replaced Blenheim IV
60	Blenheim IV	Z9591	Dohazari	Replaced 8.43 by Hurricane
82	Vengeance I/IA	AN957-Y	Ansansol	Left UK early 1942
84	Vengeance I	EZ855	Ratmalana, Ceylon	Recd 12.42, no operations until 16.2.44
99	Wellington 1C	DV875	Chaklala	Began operations 11.42
110	Vengeance I	AN927-N	Madhaigang	Left UK 3.42
113	Blenheim VD	BA916	Chandina	
159	Liberator II	ALF03	Digri, India	
215	Wellington 1C	HF900-T	Jessore	Began operations 24.4.42

Michael J. F. Bowyer

AIRFIX magazine



Above: Two new Airfix kits are the famous pocket battleship Graf Spee and a Douglas Invader.



Two New Airfix Kits

THE Douglas Invader positively bristles with heavy and light armament and the Airfix kit in 1:72 scale captures all the fine detail of this multi-purpose light bomber. The plane was designed to meet a USAAF specification in early 1940 and four years later it flew with the US 9th Air Force, part of which was based in Britain. The completed model, which is 8½ inches long with a wing span of 11½ inches, can be modelled with the undercarriage and bomb doors in the open or closed position. The ailerons on the wings and tailplane elevators are moveable and the tail fin can be set in any desired position.

The Airfix kit can be made up as either an A-26B Invader of the 670 Squadron (416 Bomb Group) based at Laon, France, during December 1944 when the plane was nicknamed 'Miss Mildred', or as a B-26C of the 37 Squadron (17th Bomb Group) which was based at Pusan in Korea during 1952 and called 'Monie'. Both versions of the plane carry a cluster of machine guns over the nose and in the wings, plus four cannons on the underside of each wing. Landing lights, communications antennae, windscreen wiper blades, range finders, four bombs and pilot stirrup steps have all been carefully moulded, although modellers will find extra care necessary when fixing some of these smaller

items. The kit comes complete with display stand, two sets of transfers and complete painting instructions. The price is 63p.

The other new kit is a 1:600 scale replica of the famous German battleship *Graf Spee*. On the completed model, which is 12 inches long, all items of deck detail have been accurately reproduced. The main gun turrets which each housed three 28 cm guns, and on the model the gun barrels themselves can be elevated to various firing positions, and items of ancillary equipment are clearly defined. The *Graf Spee's* armament also included three 15 cm quick-firing guns, single mounted; six 10.5 cm anti-aircraft guns, eight torpedo tubes of 53.3 cm calibre. Deck detail itself is impressive and includes three motor launches, lifeboats, navigational and communications equipment, two aircraft cranes, catapult, torpedo tubes and anchor chains.

The *Admiral Graf Spee* was built at the Wilhelmshaven Naval Dockyard and launched on June 30, 1934. During the latter part of 1939 she served in the South Atlantic and Indian Ocean, sinking nine ships totalling over 50,000 tons. She was engaged by British cruisers *Achilles*, *Ajax* and *Exeter* at the now famous battle of the River Plate on December 13, 1939, and after sustaining extensive damage she put in to Montevideo, which was a neutral harbour, and was granted a 72 hour stay. However, on December 17, the captain, realising that she was no longer in battle order, put to sea and scuttled his ship. The *Graf Spee* had a displacement of 12,100 tons, was 593 feet long and carried a complement of 1,150 officers and men. Price of the kit is 49p.

New Books—from page 223

to the present and includes all the latest types in service. New pictures, new material, new drawings, and a new appendix covering ships operating helicopters are features of this latest edition. Like all the Putnam books in this series it is beautifully written and finely produced, representing excellent value (over 460 pages) for the money. It is, in short, the perfect reference book on the subject.

Aircraft Profile 225: Me 163 Komet.
Profile Publications Ltd, Coburg House,
Sheet Street, Windsor Berks.
35p.

LATEST Aircraft Profile is a *tour de force* on the Luftwaffe's little Komet rocket fighter and is packed with rare pictures, some excellent colour art, and the complete technical story of an ingenious and somewhat hair-raising aircraft. It is the ideal reference book for anyone modelling this aircraft and excellent value for its modest price.

Plastic Scale Model Aircraft.
W. R. Matthews.
Almark Publishing Co Ltd, 270
Burlington Road, New Malden, Surrey.
£1 (paperback); £1.60 (hardback).

IN the inimitable W. R. Matthews fashion, this book covers the basics

of assembling, detailing, and converting from aircraft kits. It is particularly strong on adding working detail (like folding undercarriages) to model aircraft, but it covers all aspects well with plenty of good model pictures, about 100 in all; 11 of these are in colour. There are numerous line drawings, good photo coverage of the details mentioned in the text. Anyone aiming to build better models will find this book useful. Numerous conversion ideas are suggested.

MILITARY

Infantry Action 1925-1975 Wargames Rules.
Published by the Wargames Research Group.
45p.

THIS well-thought-out and admittedly rather complicated book is a must for any wargamer who wants to add greater realism to small-scale infantry engagements of the type fought during the Second World War, Korea, and the Malayan Emergency. Based on the usual 20 and 25 mm wargames figures, these rules can also be adapted to the larger 1/32 or 54 mm figures with an adjustment to the ground scale.

Altogether this book should provide

hours of fascinating wargaming as it is one of the most realistic set of rules we have yet come across, allowing neither side more information than they would actually have in any battle; always a problem in wargaming. Available from Bob O'Brien, Wargames Research Group, 75 Ardingly Drive, Goring-by-Sea, Sussex. At 45p plus 3p postage, it is well worth the money.

The Universal Soldier.

Edited by Martin Windrow and Frederick Wilkinson.
Guinness Superlatives Ltd.
£4.50.

THIS large format book, with full-page colour illustrations covers the life and conditions of ordinary soldiers from AD 43 up to 1944. Fourteen different soldiers are described, from one Caius Largennius Optio in Legio II Augusta, through George Morrison of the 95th Rifles, to Jürgen Stempel Obergefreiter of Panzer Grenadier Regt 394. Each soldier is a composite character drawn from contemporary documents and all the incidents they are involved in are true. Altogether a very lush production that will make someone a fine Christmas present.

New Kits — from page 222

Vertol V 107-II; the Boeing-Vertol KV107-II, which is an airliner version of the V107-II; and the Sikorsky SH3A/D Sea King. Despite their small scale, these models are by no means impractically small, being 5-6 inches long, and they fit in really well with the other kits in the series, and are interesting enough to attract attention in their own right. All are finely detailed, entirely flash-free, and fit together very well indeed. The Vertol twin-rotor machines feature rear doors which can be opened and closed, so that they can be depicted in a variety of positions.

The real attraction of these models are

the extremely diverse colours in which they can be finished, and for which transfers are provided. The airliner V107-II has the colourful markings for Pan-American, New York Airways, and Kawasaki Heavy Industries. The Sea King has transfers for machines of the Royal Navy, the Japanese Navy and the US Navy, this machine being the famous '66' from USS *Hornet*. The Vertol KV107-II includes markings for no less than six different machines, including one of the RCAF, three Japanese machines, and two Swedish ones. Although our instruction sheets were in Japanese, they were very easy to follow, although without research it would not be possible to work out the colours the kits should be painted in unless the finish chosen is one which appears on the box

lid. Nevertheless, these three models are highly recommended to anyone looking for slightly unusual subjects, and they are a delight to build and display. At 49p each they are good value considering their quality and the number of alternative transfers provided. P.W.

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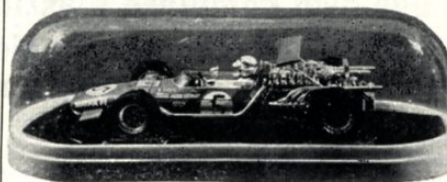
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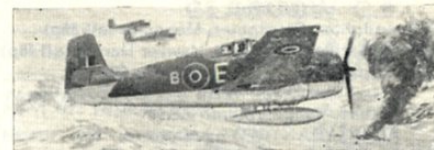
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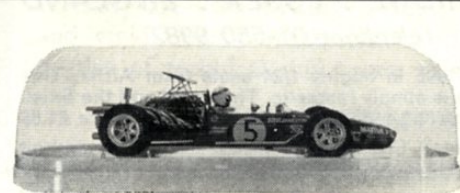


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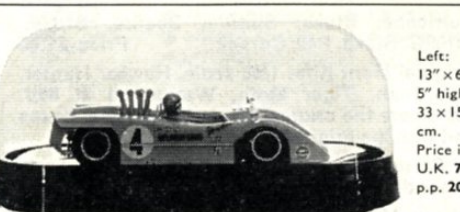
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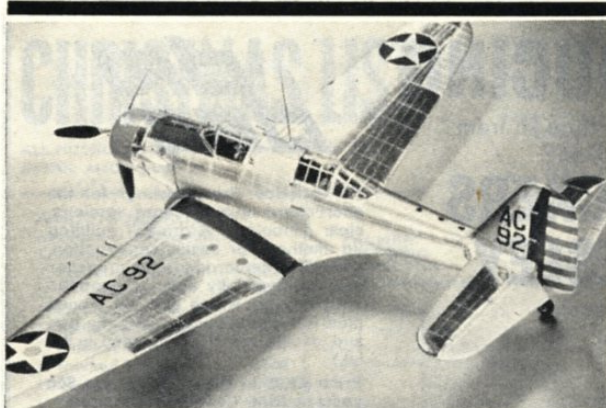
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